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ABSTRACT

The purpose of the Allied Health Manpower Training Model Project has been to develop a comprehensive manpower development program for health professionals that will serve as a model for other training institutions and health care organizations as they undertake continuing manpower planning and reorganization to meet the changing requirements for allied health manpower. This effort has been implemented in the Sunset Park and Bay Ridge areas of Brooklyn, New York, the area served by the Lutheran Medical Center, which conducted the project. This document contains six chapters: (1) Overview, (2) Allied Health Manpower Needs of Sunset Park-Bay Ridge, (3) Background for the Health Careers Guide, (4) Core Curricula, (5) Affiliation Agreements, and (6) Conclusion. Appended are (1) Health Careerr Guide (data sheets of educational and occupational information on each of 19 health occupations, e.g. blood bank technologist, dietitian, medical record technician, respiratory therapist, and speech pathologist), (2) Health Survey Course Description (unit objectives, activities, and resources for a 3-credit health survey course to be inserted into a standard program of study to facilitate career choice and orientation), (3) list of courses or subjects common to allied health careers, (4) cost factors in the Lutheran Medical Center training program, (5) prototype affiliation agreement between a hospital and educational institutions, (6) list of Sunset Park and Bay Ridge Health facilities, (7) list of New York metropolitan area planning agencies, (8) allied health manpower training model project advisory committee, (9) condensed sample of occupation table, and (10) employee interview data. A bibliography is also included. (ML)

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ALLIED HEALTH MANPOWER TRAINING MODEL

Contract Number NO1-AE-34104

FINAL REPORT
June 27, 1973 - January 31, 1975

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CHAPTER I

Overview

Background

The purpose of the Allied Health Manpower Training Model Project has been to develop a comprehensive manpower development program for health professionals that will serve as a model for other training institutions and health care organizations as they undertake continuing manpower planning and reorganization to meet the changing requirements for allied health manpower. This effort has been implemented in the Sunset Park and Bay Ridge areas of Brooklyn, New York.

Sunset Park and Bay Ridge are a natural catchment area for health services. The combined population of the two areas (over 200,000 people) represents a broad range of demographic variables including income, education and health status. Lutheran Medical Center (LMC) is the community-oriented health care institution serving this population.

Lutheran Medical Center, in addition to serving as the major community health facility for Sunset Park and Bay Ridge, is a vital community service center. The hospital has applied its health and human resources to the task of improving the quality of life in the inner city and promoting its community's over-all good health.

In 1969 the trustees and administration of this 288-bed hospital decided to replace its out-dated, fragmented and over-crowded physical plant by renovating an abandoned factory building in the heart of Sunset Park, the low-income community within the area it serves. Through cooperative planning with the neighborhood a model and a strategy were established whereby the hospital's move would be a catalyst for broad community redevelopment. Since its earliest days, the renewal plan has been carried forward by the Sunset Park Redevelopment Committee, a citizen group broadly representative of the ethnic, social and economic structure of the neighborhood. Through this organization, as member and partner with the community, Lutheran Medical Center is working toward the physical rehabilitation of Sunset Park. In recent years the medical center has also been providing assistance to several pre-school children's care and educational centers and senior citizens groups.

In addition to contributing to community improvement in these ways, the expansion of the hospital can have an even greater positive economic effect on the neighborhood. It will mean increasing the present staff of 1,100 to approximately 1,600 employees by 1978. To a community in which the unemployment rates are high and where underemployment is common, such an increase in local jobs could have a great impact. Further, some present hospital employees, many from local neighborhoods, are locked into routine, dead-end jobs because of educational or language barriers, home responsibilities and the lack of motivating influences and an advocate system.

In an effort to combine the resources of health providers and academic institutions serving Sunset Park and Bay Ridge to address the health manpower training needs of the community, Lutheran Medical Center accepted the contract with the National Institutes of Health to establish the Allied Health Manpower Training Model Project.

Project Activities

The project has been seen as the first step in establishing a broader manpower program, the goal of which would be to determine allied health manpower needs, establish training mechanisms, and actually implement training programs. The purpose of this contract has been to establish a manpower training model which would lay the groundwork for meeting determined manpower needs in a natural catchment area. Through the application of the model it is expected that a community's health manpower needs would be met in a more rational way than is usually the case.

The general thrust of this program has been toward defining training and employment opportunities. Project activities have spanned:

1. the calculation and projection of health manpower needs of all health providers in Sunset Park-Bay Ridge;
2. the delineation of the education and training required for the well-prepared personnel who will meet these needs;
3. specification of alternative modes of acquiring appropriate education and training;
4. identification of institutions where education and training are available;
5. definition of career mobility options;
6. exploration and development of core curriculum components for students preparing for allied health careers;

7. examination of Lutheran Medical Center's affiliation agreements with academic institutions with a view toward changing them to reflect more adequately the hospital's contribution to training;
8. organization of an advisory committee of representatives of clinical and academic institutions and community leaders; and
9. continuing project evaluation.

Allied Health Manpower Training Model

As the figure on the following page illustrates, allied health manpower training can be viewed as part of a continuum, all of whose parts interact. Both the health and employment needs of the community provide impetus and justification for such training. The community, on the two levels, creates the demand for health manpower and then is served by it, again on two levels: through increased employment and improved health care. The value of this service will be determined by the effectiveness of the entire network. Each unit must be productive and coordinated with the whole so that the individuals in need and capable of employment are appropriately trained to function satisfactorily in positions required by the local health system.

The statement of allied health manpower needs for Sunset Park and Bay Ridge in Chapter II is a resource document essential to the formulation of the training model. And following naturally from the needs statement is the description of training requirements and options for occupations for which there is reasonable employment potential. To outline and, by implication, encourage training for careers for which there are no job opportunities would be a disservice.

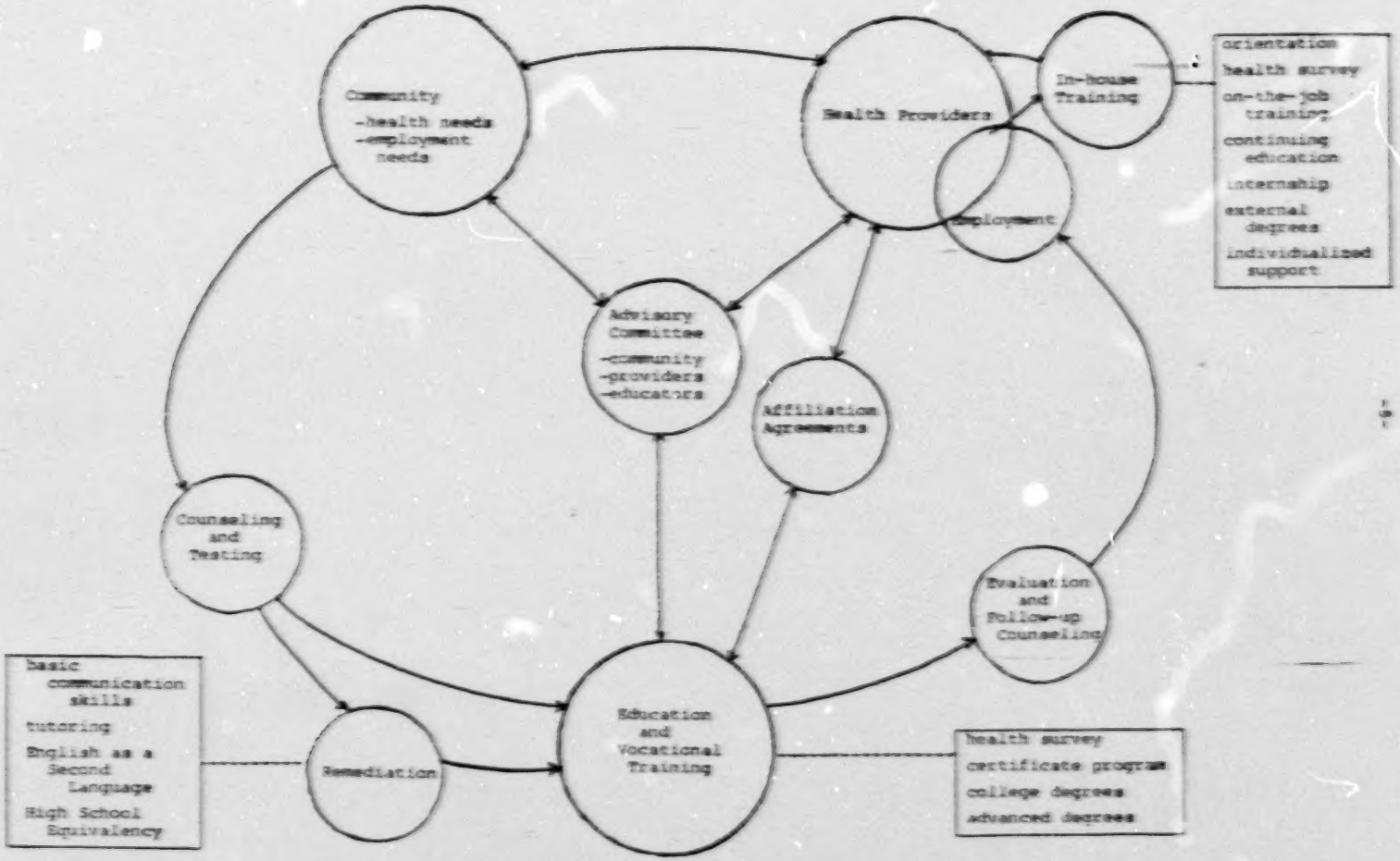
Going a step further, to delineate employment options without providing a mechanism for its dissemination is non-productive and wasteful. Therefore, to transform these data from an academic exercise into a valuable instrument in an allied health manpower training model for communities similar to ours, we include in it a counseling and remediation component.

The Need for Counseling and Extra-Vocational Education

Reinforcing the current depressed economic status of Sunset Park-Bay Ridge, are the many individuals in the community, both residents and LMC employees, who have not achieved high school graduation, many who have language difficulties and many unfamiliar with the means of entry

Lutheran Medical Center

January, 1975



ALLIED HEALTH MANPOWER TRAINING MODEL

to training, upgrading and jobs which could permit them a comfortable standard of living. (In 1970 the median school years completed in Sunset Park was 9.18, in Bay Ridge 12.56. In 1974, one third of LMC's personnel had not completed high school.)

To help these people attain a level of competence at which they can compete favorably for allied health jobs, training must be preceded by guidance to indicate job and training possibilities, counseling to provide ego-support and remediation to deal with academic disadvantage. Vocational guidance and counseling could be effectively handled by carefully selected bi-lingual individuals. Remediation should take the form of classes in Adult Basic Education, High School Equivalency and English as a Second Language. This pre-vocational program can address educational and personal disadvantage and provide the means for a realistic assessment of each individual's capacity and options. Counselors can provide individualized support for people going to school and those who are employed as well. It can take the form of moral support, encouragement to continue toward a goal, tutoring or guidance regarding lateral and vertical mobility options.

To determine the extent to which LMC personnel are aware of mobility and training opportunities, have availed themselves of these opportunities, and desire to do so, the project staff interviewed a cross-section of LMC employees. We conducted five- to ten-minute interviews with 84 employees, a seven percent sample of the hospital's entire work force, representing all departments and levels. Of all of those interviewed, 71 percent wish to move upward professionally. However, only 63 percent of these aspiring individuals have a clear notion of what the job opportunities are, and only 65 percent are informed about the training requirements. Further, although lack of information is evident among both entry level and trained personnel, it is the former, those presumably most in need of information, who are the least informed about job possibilities, training and employee benefits related to upgrading and training.

Individuals cannot participate in activities about which they have no information, and there are many who lack information. The results of this informal survey demonstrate the need for strengthened pre-vocational education and certainly for more careful and comprehensive in-house educational support for employees.

Documentation of community response to such a service exists in the Educational Opportunities Program now underway at LMC. It is a prototype for the component described

above and has experienced a steady flow of community residents and employees seeking and receiving counsel and guidance. (Vocational guidance is significantly assisted by the health career data sheets to be described later.)

Training Programs for Allied Health Manpower

Educational and vocational training to prepare allied health manpower includes certificate programs and associate, baccalaureate and advanced degree programs. During employment, job preparation takes the form of on-the-job training, orientation, internships and continuing education. Some individuals work on their own for external degrees.

The educational and training programs which lead to associate degrees and beyond (the focus of this project's activities) are considered in detail in the health career data sheets. For the purposes of this contract the occupations detailed do not include all those utilized by area health providers. The legislative constraints of the Bureau of Associated Health Professions prohibit consideration of nurses and include only workers who require training on at least the associate degree level. Worth noting here is the fragmentation imposed upon investigators of allied health manpower by federal statutes that artificially separate the occupations within the single field. For example: precluding the consideration of nursing personnel, as does this contract, prohibits assessment of the impact on nursing utilization by respiratory therapists. Recognition that the health professions constitute a team working together for a common good implies consideration of how one member of the team affects the function of another. This kind of synthetic division impedes rational health manpower planning.

A series of intradisciplinary discussions with groups of department heads was convened to identify inadequacies in training which might have become evident through employee performance. These meetings and talks with academic faculty and a wide range of health personnel revealed a need for an addition to the training of virtually all allied health manpower in the form of what might be called a health survey course. Such a course could be offered as part of certificate and degree-granting programs, or be included in in-house orientation programs. The course would strengthen the preparation of individuals about to enter allied health occupations and the competence of those already employed. The course should consist of subject matter of common concern to all health professions but which may be receiving

inadequate emphasis in current training programs. Subjects should cover:

1. human responses to health, sickness and dying
2. medical team roles and relationships
3. medical terminology
4. basic diagnostic and therapeutic techniques related to health care
5. theory and techniques of asepsis
6. selected emergency first aid procedures
7. record keeping
8. legal and ethical considerations pertinent to health services
9. community health service resources
10. interpersonal and professional behavior and skills

If the course is not given as part of a school curriculum, but offered by a clinical institution for its employees, it could readily be accepted as credit-worthy by the growing number of institutions recognizing learning acquired in other than traditional settings. It would thus have an additional practical use for workers aspiring to academic degrees.

The notion of instituting a spectrum of courses of common elements to be attended simultaneously by students preparing for many different allied health professions has much to be said for it. A discussion of the advantages as well as the obstacles to general acceptance of this practice appears in Chapter IV.

The Advisory Committee

Recognizing that a mechanism for continuing discussion among health providers, academic institutions and the community is essential to rational development of allied health manpower training efforts, the model includes an Advisory Committee composed of representatives of all three sectors. Patterned after the advisory group convened to assist the project staff, the Committee could consist of an Advisory Council and a Technical Panel. The former, whose members should have positions of authority, would provide a general and institutional perspective on manpower issues, suggesting what is possible, practical and/or desirable. The Technical Panel should have members with expertise in a defined clinical or educational area to provide information pertinent to individual disciplines. This body could serve as a useful resource to the individuals responsible for reviewing affiliation agreements.

In order to coordinate planning for the allied health manpower training model an advisory committee of clinical academic and community representatives was formed early in

the life of the project. We invited the participation of individuals from institutions and agencies with an interest in Sunset Park-Bay Ridge who could provide counsel, evaluation, the commitment of their sending organizations, and the expertise to deal with some of the specific issues of mutual concern. Attendance at advisory committee meetings was not what we had hoped for. A major reason is that most of the participating individuals were already inundated by commitments to attend meetings. Also, meetings of large groups include some relatively wasted time because discussions occasionally veer off on tangents, or get bogged down on a single individual's special interest. Consequently, in the latter part of the contract period, we met with some task group members individually as the need for advice and comment arose.

Another important consideration in the development of broad based advisory committees is that many of its members, particularly consumer representatives, must acquire a great deal of background information before they are in a position to make knowledgeable contributions.

In the development of such mini-consortia it is essential to remember the extensive interaction among communities in a metropolis such as New York City. Advisory committees must not be established as isolated units but should have provision for linkages with similarly concerned groups in other neighborhoods. Individuals do not always stay within narrow localities for training and employment. Consortia, in order to address the needs of these people must recognize the interdependence of their resources.

Through our meetings, we hope we have established the nucleus of a permanent consortium which will provide a mechanism for the flow of information and planning and coordination of training programs relevant to allied health manpower. We are looking forward to cooperating with the United Hospital Fund in its current attempt to organize a Brooklyn-wide health manpower consortium. An agency such as UHF, because it is independent of potential consortium members, is in a particularly favorable position to attract cooperation in the development of this body. We anticipate that UHF's involvement will put a great deal of momentum into the establishment of the consortium. We believe Lutheran Medical Center can affect the character of the consortium and prepare to participate optimally in its functions by maintaining a continuing coordinator.

Affiliation Agreements

The affiliation agreement between the health facilities

and educational institutions to provide for the clinical training of allied health careerists is a critical link in the health manpower network. The health providers rely upon the educators' expertise in selecting and administering students and their techniques for teaching general and technical subjects in a classroom situation. The hospitals are the indispensable providers of clinical experience and, in the end, must be the arbiters of the essential components of training, and the minimal qualifications for those who come to the hospitals seeking employment. These standards and components are not static but must be responsive to the changing technology and requirements of health care delivery. The affiliation agreement can mandate the mechanism through which the clinical and academic sectors address each other's requirements. Thoughtful preparation of the affiliation agreement will have significant impact upon the production of health practitioners competent to deliver good health care.

CHAPTER II

Allied Health Manpower Needs of Sunset Park-Bay Ridge

Introduction

One of the objectives of the Allied Health Manpower Training Model Project is to explore the possible effects of reversing the traditional approach to the planning of training programs. Often the practice is to offer a course of study because an academic institution has the facilities and willingness to do it, and there are students willing to enroll. Inadequate consideration is given to the specific manpower requirements, in terms of numbers, types, capabilities of the providers of health care for whom these students ultimately hope to work. We are attempting to ascertain the manpower needs of our catchment area health providers with a view toward advising academic institutions to adapt their programs when it is appropriate.

The other purpose of delineating manpower needs is to establish a sound information bank to serve as the basis for counseling community residents interested in entering or progressing within the field of health careers. Knowing which personnel will be in demand, we can then outline the alternative methods of preparation, where they are available, the prerequisites for each, and how long the period of training can be expected to be.

The assessment of manpower needs may be approached in several ways:

1. Basic figures are provided by the number and kinds of allied health personnel now employed in Sunset Park and Bay Ridge, plus those vacancies for which replacements are being sought. Added to these will be the number of people required annually to replace those leaving the employment rolls, and the new employees needed for planned expansion.
2. Another measure of health manpower needs may be elicited from the demographic make-up of the community to be served and some aspects of the level of its health care measured against the norms of the nation as a whole. Such a comparison might suggest the existence of deficits in the local health system.
3. It is possible, also, to think in terms of an ideal health delivery system and the personnel that would be required to operate it effectively.

We shall address the problem of estimating needs from all three perspectives. The ways in which the utilization of new kinds of personnel might affect the delivery of health care will also be considered.

Community Employment Needs

In 1970, the last year for which data are available, Sunset Park's reported 5.0 percent unemployment rate was higher than that of the United States as a whole (4.1 percent). and even higher than that of New York City (4.6 percent).[1] Sunset Park's unemployment rate is more meaningful when thought of in terms of the individuals it represents. In 1970, 1,650 individuals were actively seeking employment. This is an understatement of those in need of jobs, however, because it does not include the under-employed or those who have given up looking for work. This picture is further dramatized by the fact that between July 1, 1972 and June 30, 1973, the local neighborhood manpower service center received 3,276 applicants for jobs, of whom only 1,460 could be placed. To the 1,816 not placed that year must be added the unknown numbers of community people in need of jobs who did not come to the center. It is worth noting, too, that most of the placements made through the manpower center are in low-level dead-end factory jobs. We can assume that many of those so employed would welcome a change to a position offering an opportunity for upward mobility. A career in a health-related occupation could be this opportunity.

The economic picture of Sunset Park and Bay Ridge should also acknowledge its many residents who are receiving public assistance. In the whole area there are 7,470 public assistance cases, or 19,352 persons. Of these, 5,736 cases representing 16,244 individuals, live in Sunset Park.[2]

Another indication of the need for employment opportunities in Sunset Park-Bay Ridge is presented by data gathered through Lutheran Medical Center's Educational Opportunities Program (EOP). In the three-month period from November 1973 through January 1974, about 175 individuals requested counseling related to education and training for allied health careers. These people, both employed and unemployed, may be just "the tip of the iceberg" since EOP had just begun and was not widely known.

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[1] Based on figures in the United States Census, 1970.

[2] New York City Youth Services Agency figures.

Preliminary Estimate of Allied Health Manpower Needs

Within the next four years Lutheran Medical Center (LMC) expects to expand from a 280-bed facility to one with a 530-bed capacity. In preparation for this expansion, a preliminary estimate of staff requirements for the new facility has been compiled. This projection includes only those positions which fit within anticipated budgetary limits, without provision for the utilization of workers other than the types currently employed. Table 1 lists the anticipated additional allied health personnel needed for the enlarged LMC.[3] Also indicated are the numbers now employed.

Personnel replacements for LMC and the other hospitals in Sunset Park-Bay Ridge are calculated in Table 2. In some instances data on the number of personnel employed and turnover were available directly from the institution. When this was not the case we assumed that personnel are used in the same proportions as at LMC and that they experience similar turnover rates. The turnover rate for each of the years from 1974 through 1978 is assumed here to be the same as that for 1973. It is understood that this rate includes more than just those who leave the labor force permanently and for whom new manpower must be created (that is, trained). However, because Sunset Park and Bay Ridge make up so small a geographic area, it might not be unreasonable to think of many or most of those leaving health jobs here as leaving our labor pool permanently - that is, there is a considerable likelihood that people will take jobs outside of it. In any case, a vacancy means that a job is open for someone else, including an individual who has just entered the field.

The Brooklyn Veterans Administration Hospital is a 1000-bed general medical and surgical facility in Bay Ridge. There are no plans to enlarge it, and so there is no anticipated increased need for health personnel.

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[3] For the purposes of this contract occupations under consideration do not include all those employed at LMC. The legislative constraints of the Bureau of Associated Health Professions prohibit consideration of nurses and include only the following occupations all of which require training on at least the associate degree level: medical technologist, optometric technologist, dental hygienist, radiologic technologist, medical record librarian, dietitian, occupational therapist, physical therapist, sanitarian, x-ray technician, medical record technician, inhalation therapy technician, dental laboratory technician, dental hygienist, dental assistant, ophthalmic

(see p. 19)

TABLE 1 Lutheran Medical Center: Personnel Currently on Staff, and Additional Numbers Needed for New Facility

	On Staff 1973	Additional Needed
Registered Nurses	200	66
Licensed Practical Nurses	74	73
Supervisors*		
Ambulance	1	-
Central Sterile Supply	-	1
Diagnostic and Treatment	-	1
Dietary	5	6
Laboratory	6	-
Medical Records	2	-
Operating Room	1	-
Pharmacy	1	1
Physical Therapy	1	-
Radiology-diagnostic	2	1
Radiology-isotopes	-	1
Respiratory Therapy	1	-
Social Service	2	1
Physical Therapists	1	2
Respiratory Therapists	1	4
Social Service Case Workers	3	5
Pharmacists	3.5	.5
Dieticians	7	1
Technicians		
Ambulance	7	-
Diagnosis and Treatment	3	9
Family Health Center	19	14
Laboratory	29	18
Medical Records	9	6
Operating Room	9	23
Pharmacy	1	5
Physical Therapy	-	3
Radiology-diagnostic	14	8
Radiology-isotopes	-	1
Radiology-therapy	-	1
Respiratory therapy	4	2

TABLE 1 Lutheran Medical Center: Personnel Currently on Staff, and Additional Numbers Needed for New Facility (continuation)

	On Staff 1973	Additional Needed
Aides		
Dietary	41	19
Nursing *	140	77
Physical Therapy	1	2
Radiology	3	4
Diagnostic and Treatment	-	4
Dental Hygienists	2	-
Dental Assistants	9	-

* Supervisors include: supervisors, administrators, assistant administrators, administrative assistants, department heads, assistant department heads; exclude: nursing supervisors, who are included under registered nurses

	1971: Lutheran Medical Center			Veterans Administration Hospital		Victory Memorial Hospital		Bay Ridge Hospital		Park Haven Nursing Home		Total Replacement Needed 1973	Total Replacement Needed 1974-1978
	Turnover rate	Employees	Turnover No.	Employees	Turnover No.	Employees	Turnover No.	Employees	Turnover No.	Employees	Turnover No.		
All Employees	7.08*	1220*		1396**		600*		191**		79*			
Dental Assistants	11 *	1*	1*	10	1	-		-		-	-	2	10
% of all employees		.74											
Dental Hygienists	100. *	2*	1*	2	2	-		-		-	-	4	20
% of all employees		.16											
Dietetic Technicians	33.33*	4*	2*	7	2	3	1	1	-	1*	1	6	30
% of all employees		.49											
Dietitians	0*	1*	0*	1	0	-	-	-		1*	0		-
% of all employees		.08		.08									
Laboratory Technicians	19.61*	15*	7*	22*	5*	14*	6	4	1	2*	-	19	95
% of all employees		1				3							
Medical Record Technicians	0*	1*	0*	1	0	2	0						
% of all employees		.16											
Physical Therapists	0*	1*	0*	1	0	-	-						
% of all employees		.08											
Physical Therapy Technicians	0*	2*	0*	2	0	1	0						
% of all employees		.16											
Radiologic Technicians	37.27*	11*	4*	13*	3*	7*	3	1	-	1*	-	10	50
% of all employees		1				1							
Respiratory Therapists	100. *	1*	1*	7*	6*	-	-	-	-	-	-	7	35
% of all employees		.08											
Speech and Occupational Therapists	100. *	1*	1*	1	1	-	-	-	-	-	-	2	10
% of all employees		.08											

* Figure comes directly from the institution
**Figure is from AHA Guide Issue, 1974
Other figures are based on the assumption that personnel are used in the same proportions as at LMC and that the turnover rates are the same.

Table 2: Sunset Park-Bay Ridge Health Facilities' Allied Health Manpower Needs

The hospital Employee Development officer provided the figures indicated on the table. The Veterans Hospital's ratio of nursing personnel to patients is acknowledged to be significantly lower than in most other hospitals. The reasons given were efficiency, many ambulatory patients go for tests unattended and a relatively large number of patients do not require acute nursing care.

Victory Memorial Hospital expanded within the last year from 216-beds to 254, 88 percent the size of LMC. The director reports an occupancy rate of 85% and a work force of about 600, which is 69 percent the size of LMC's.

Calculation of the manpower needs of Bay Ridge Hospital is difficult because of the administrations unwillingness to transmit information. Therefore, we have used the 1973 data in the 1974 American Hospital Association Guide as the basis for some estimates.

As indicated in Table 3, in 1973 Bay Ridge Hospital has 26 percent of the number of beds Lutheran Medical Center had, but its occupancy rate was much lower: 61 percent compared to 100 percent. Bay Ridge Hospital had 21 percent the number of admissions. Its number of personnel was disproportionately lower: 15 percent of LMC's. This might be accounted for by two factors:

1. its dearth of services - it has no intensive care cardiac unit or intensive care unit, as two examples among many.
2. its average daily census is 16 percent of LMC's.

A report on the Conference on Research on Nurse Staffing[4] suggests that there is no consistent nurse staffing pattern among institutions. The strongest relationship

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assistant, occupational therapy assistant, dietary technician, medical laboratory technician, optometric technician, sanitarian technician. We excluded those occupations on the list for which there is no demand in Sunset Park-Bay Ridge. To it we have added occupations in demand which meet the criterion of requiring at least two-year training period.

[4] Research on Nurse Staffing in Hospitals, Department of Health, Education, and Welfare, Publication No. (NIH) 73-434, 1972.

	Bay Ridge	% of LMC	Victory Memorial**	% of LMC	LMC
Personnel	131*	15.1	600	50.7	866
Beds	74	25.7	254	75	288
Admissions	1860	20.6			9045
Census	45	15.6			289
% occupancy	60.8		85		100.3
Bassinets	21	55.3			28
Births	416	30.2			1376

* Based on AHA Guide Issue, 1974

**These are the only figures available and were given us by the hospital administrator. The 1974 AHA Guide data do not reflect Victory Memorial's recent expansion.

Table 3: Hospital Profiles

exists between nursing requirements and the size of the physical plant, with larger hospitals operating with proportionately smaller staffs.

If this is true, we could assume that Bay Ridge Hospital has relatively more nursing staff than LMC. However, this would be offset by the absence of nurse-intensive services. Therefore, and because there is little else to guide us, we shall assume the distribution of Bay Ridge Hospital's personnel is in the same ratio to its total staff as is LMC's. We chose the total number of personnel as the point of reference rather than bed capacity because it is probably a better reflection of the hospital's level of activity.

Of the five private medical groups situated within the Sunset Park-Bay Ridge area, four provided figures on their use of allied health manpower.[5] The needs of the private physicians and dentists practicing in the area were based on their responses to a survey conducted by LMC's planning division. The turnover rates are assumed to be the same as at LMC. The following are their figures, aggregated:

	Current Employees	Total Replacement Needed for 1974-1978
Dental Assistants	47	25
Dental Hygienists	8	40
Laboratory Technician	5	5
Medical Records Technician	3	-
Radiologic Technologist	3	6

In Table 4 the additional personnel needed in Sunset Park-Bay Ridge because of expansion and for replacements from 1974 through 1978 are aggregated to yield the estimated total number of allied health manpower for whom jobs should be available during that five-year period.

Additional Indicators of Community Health Manpower Needs

Of the approximately 234,800 (in 1970) residents of Sunset Park and Bay Ridge, 7.3 percent are under five years of age, 77.8 percent are between five and 65 years old,

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[5] The groups which responded are: Park Medical Building, 4824 Fifth Avenue; Fifth Avenue Medical Building, 4711 Fifth Avenue; Seafarers' Welfare Plan, 675 Fourth Avenue; Women's Health Center, 999 Third Avenue.

and 14.9 percent are over 65. This is an unusually large proportion of elderly people: in the nation as a whole in 1970 those over 65 years of age made up 9.9 percent of the population.[6]

The presence of an especially large number of elderly individuals in this catchment area should have considerable significance in projections of health manpower needs because of the demands on health services made by this group. About 27 percent of the annual expenditure for personal health care is used for the elderly, who represent only one-tenth of our population. They occupy 25 percent of all acute hospital beds, and use 90 percent of the nation's nursing home resources.[7] The rate of hospital discharges for those 65 years old or more was four times as high as for children under 18 years of age. This is compounded by the number of days the elderly stay in the hospital: the average length of hospital stay was 13 days, while for those under 18 it was five days. Individuals 75 years of age or more averaged 7.4 visits to medical doctors compared with 4.1 visits by those under 17.[8] It is worth noting, too, that since 1900 this over-65 segment of the population which places such great demands on health resources had been growing faster than the rest of the population, with the group over 75 growing even faster.[9]

Another way of assessing need for health services, and consequently for allied health manpower, is relative to income. Lower income groups have a higher rate of hospitalization and longer average length of hospital stay. Families with less than $3000 annual income make more visits to physicians annually than do any other group, and those with $3000 to $3999 make the next highest number.[10] Sunset Park and Bay Ridge have more than the normal share of poor

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[6] 1970 Unites States Census

[7] Hammerman, J., "Health Services: Their Success and Failure in Reaching older Adults", American Journal of Public Health, March 1974.

[8] Current Estimates from the Health Interview Survey, U.S., 1972, Vital and Health Statistics, Series 10, Number 85, N.C.H.S.

[9] Brothman, H.D., "The Fastest Growing Minority: The Aging", American Journal of Public Health, March 1974.

[10] Age Patterns in Medical Care, Illness, and Disability, U.S., 1968-69, Vital and Health Statistics, Series 10, Number 70, N.C.H.S.

	Additional Personnel Needed: Expansion	1974-78 Replacements*	Total
ntal Assistants	- *	35	35
ntal Hygienists	- *	60	60
etetic Techs	-	30	30
etitians	1	-	1
boratory Techs	18	100	118
dical Record Techs	6	-	6
ysical Therapists	3	-	3
ysical Therapy Techs	3	-	3
diologic Techs	12	56	68
spiratory Therapists	6	35	41
eech and Occupational Therapists	3	10	13

tes: Differences from the figures in Table 2 appear because of the inclusion here of replacement requirements for the private practitioners and medical groups.

Cases where there are no replacement figures indicate the situation in 1973. Presumably there would be some turnover during a five-year period.

An unspecified additional number will be needed in the expanded LMC's Family Health Center.

ble 4: Additional Allied Health Manpower Needed, 1974-1978, Sunset Park-Bay Ridge

families. In 1970 20.94 percent of Sunset Park's families had incomes below $4000 along with 10.15 percent of the families in Bay Ridge. Nationwide, 8.2 percent of the families had incomes below the official poverty level, $3,745 for a family of four.[11]

It has also been found that the number of annual physician visits is higher inside Standard Metropolitan Statistical Areas, and this community falls into that category.[12] Altogether, the demographic picture of Sunset Park-Bay Ridge indicates that its need for health services and personnel is greater than that of the general American population.

Beyond this, there is also reason to believe that the community's residents are not currently using medical services to a degree adequate for their requirements: nationally, the average annual number of physician visits for individuals of all ages is 5; here, at the hospital-affiliated Family Practice Service, the annual average is 4.2, and at the Sunset Park Family Health Center it is 3.5. The point suggested by this is that the area's real health manpower needs are significantly greater than the figures presented in this report indicate.

Community utilization of LMC's Family Practice Service and the Emergency Room shed additional light on the adequacy of its health resources. The Family Practice unit serves as a training program for medical residents and is available to all on a fee-for-service basis. The fees are on a sliding scale, with an $8.00-a-visit maximum, making the service financially accessible to most community residents. Yet, although the area has a high proportion of elderly residents, few are registered with Family Practice. And, although this is a disadvantaged urban community, the average number of patient visits per year is below the national average.

The hospital Emergency Room received 39,456 visits in 1973 of which two-thirds were non-emergencies. Even if some patients come to the Emergency Room because it is their preferred method of receiving medical care, it is likely that a large portion of the 26,000 non-emergency visits were made because these patients have been unable to find a more rational alternative. These patterns of use related to the Family Practice and Emergency facilities suggest that if the people

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[11] 1970 United States Census

[12] Age Patterns in Medical Care, etc., op. cit.

living in Sunset Park-Bay Ridge begin to use or demand health services in a manner more closely approximating the national norm.-to say nothing of demanding some more ideal system, or responding to a future availability of a form of national health insurance the need for all kinds of health manpower would be significantly greater than the figures listed herein.

Training Programs to Meet Manpower Needs

Table 5 indicates the training programs which are available for the occupations of concern to this contract. Except for four of the occupations, at least one program is available tuition-free in every field. And for these four exceptions, a low tuition program exists.

Note: Column (1): X means tuition is charged; blank space means none is charged.
Column (2): "Open" refers to City University of New York's open admissions policy; blank space indicates qualified admissions where such factors as high school record, aptitude tests, disadvantaged status, experience, etc., are evaluated.

OCCUPATION	PROGRAM	(1) TUITION	(2) ADMISSION
Blood Bank Technologist	hospital laboratories		
Dental Hygienist	New York City Community College (CUNY)		open
	Columbia University	x	
Dietetic Technician	New York City Community College (CUNY)		open
	Pennsylvania State University - Correspondence Study	x	
Dietitian	Hunter College (CUNY)		
	New York University		
	Brooklyn College (CUNY)	x	
	Downstate Medical Center		
	Pratt Institute	x	
		x	
Hematology Technologist	hospital laboratories		
Medical Diagnostic Sonographer	Downstate Medical Center	low	
Medical Laboratory Technician	New York City Community College (CUNY)		open
	Staten Island Community College (CUNY)		open
Medical Record Administrator	Hunter College (CUNY)		
	Downstate Medical Center	x	
Medical Record Technician	Borough of Manhattan Community College (CUNY)		open
	American Medical Record Association - Correspondence Study	x	

TABLE 5: Training Programs to Meet Manpower Needs in Sunset Park - Bay Ridge

OCCUPATION	PROGRAM	(1) TUITION	(2) ADMISSION
Medical Technologist	Hunter College (CUNY)		
	Downstate Medical Center	low	
	Richmond College (CUNY)		
	Pace University	x	
	Long Island University - Brooklyn Center	x	
	Wagner College	x	
Nuclear Medicine Technologist	Overlook Hospital, Summit, N.J.	low	
	Kennedy Medical Center, Edison, N.J.	low	
Occupational Therapist	Columbia University	x	
	New York University	x	
	Downstate Medical Center	low	
	York College (CUNY)		
Occupational Therapy Assistant	LaGuardia Community College (CUNY)		open
Physical Therapist	Hunter College (CUNY)		
	Columbia University	x	
	New York University	x	
	Downstate Medical Center	x	
	Long Island University - Brooklyn Center	x	
Physical Therapy Assistant	Nassau Community College	low	open
Radiation Therapy Technologist	Memorial Hospital for Cancer and Allied Diseases	low	

TABLE 5: Training Programs to Meet Manpower Needs in Sunset Park - Bay Ridge (continuation)

OCCUPATION	PROGRAM	(1) TUITION	(2) ADMISSION
Radiologic Technologist	Long Island College Hospital	x	
	Methodist Hospital	x	
	United States Public Health Service Hospital		
	Memorial Hospital for Cancer and Allied Disease	x	
	New York City Community College (CUNY)		
	Long Island University - C.W. Post Center	x	
	Jewish Hospital and Medical Center		
Respiratory Therapist	New York University Medical Center	x	
	Borough of Manhattan Community College (CUNY)		open
	Nassau Community College	low	open
	State University at Stony Brook	x	
	Long Island University - Brooklyn Center	x	
Speech Pathologist and Audiologist	Columbia University	x	
	Brooklyn College (CUNY)		
	Hunter College (CUNY)		
	Pace University	x	
	New York University	x	

TABLE 5: Training Programs to Meet Manpower Needs in Sunset Park - Bay Ridge (continuation)

CHAPTER III

Background for the Health Careers Guide

The effort to gather and organize complete and accurate information on education and training pertinent to allied health careers has resulted in the Health Careers Guide.

Through school catalogues, publications of professional associations, and interviews with individuals in academic settings and in the field, a great deal of information on allied health careers has been assembled. To the more than 75 letters sent to educational institutions with programs for allied health manpower within commuting distance of Sunset Park and Bay Ridge asking for curricula, prerequisites, and other pertinent information, there were 40 responses. Letters sent to 80 relevant agencies for information on job descriptions, training, registration, certification, and licensure for allied health manpower yielded 48 responses. Further contact with professional associations followed in an effort to glean additional information about career mobility options. Professional literature and visits to other health facilities and academic institutions disclosed traditional and innovative approaches to the development and utilization of allied health manpower. All of the appropriate information gathered from these sources was charted and has been entered on 19 clearly organized, easily read, accessible Health Career Data Sheets which form the Guide.

These data sheets provide an important service to the residents and working people in the Sunset Park-Bay Ridge community. They contain specific educational and occupational information in a form designed to be used by counselors dealing with those seeking to begin or be upgraded in careers related to the delivery of health care. Each data sheet contains a job description; approximate starting salary; alternative educational patterns; prerequisites; length of programs; program of study; relevant degrees, certificates, licenses, and the requirements for each; schools within commuting distance of Lutheran Medical Center at which the programs are offered; professional associations and relevant governmental agencies; and additional comments as needed, including some indication of the opportunities for lateral or vertical career mobility.

The following workers are included within the legislative purview of the Bureau of Associated Health Professions:

medical technologist
optometric technologist
dental hygienist

radiologic technologist
medical record librarian
dietitian
occupational therapist
physical therapist
sanitarian
x-ray technician
medical record technician
inhalation therapy technician
dental laboratory technician
dental hygienist
dental assistant
ophthalmic assistant
occupational therapy assistant
dietary technician
medical laboratory technician
optometric technician
sanitarian technician

Those occupations on the list for which there is no demand in Sunset Park-Bay Ridge have been excluded from our data sheets. To it have been added occupations in demand which meet the Bureau's criterion of requiring at least a two-year training period.

The Health Careers Guide (Appendix A) contains data sheets on the following occupations:

blood bank technologist
dental hygienist
dietetic technician
dietitian
hematology technologist
medical diagnostic sonographer
medical laboratory technician
medical record administrator
medical record technician
medical technologist
nuclear medicine technologist
occupational therapist
occupational therapy assistant
physical therapist
physical therapy assistant
radiation therapy technologist
radiologic technologist
respiratory therapist
speech pathologist and audiologist

The information and materials on educational programs, alternative tracks, and job opportunities for these occupations, in addition to being summarized on the data sheets, has been organized into extensive files. The material is

easily retrievable and has been continually updated. New information is entered as it is received. The files are useful for, and have been made available to high school guidance counselors and LMC's Educational Opportunities Program and pastoral care counselors. Another effective mechanism for their dissemination would be an annual workshop for counselors from schools and other social agencies.

Contact with professional associations focused on what the associations are doing to foster career mobility in the allied health fields under consideration. When specific guidance was provided it was included in the data sheets. Summaries of the replies received follow:

The Board of Registry of the American Society of Clinical Pathologists is interested in the concept of vertical career mobility. A newsletter gives some indication of the decrease in jobs available between 1972 and 1973. The different levels of educational achievement required for general laboratory categories and specialty areas are stated on the Society's fact sheet concerning requirements for certification. However, no amplification is provided (in the letters) regarding the applicability of initial training toward programs at the next step. The fact sheet does indicate that a variety of combinations of education and experience fulfill the requirements for post-high school and associate degree levels, and that medical technologist status on the baccalaureate level can lead to a number of specialty certifications.

The American Dietetics Association, in response to dietetic manpower needs and the shifting social structure, has recently clarified the roles of dietitian, dietetic technician, and dietetic assistant in food management. A relatively new review and approval process has been instituted for educational programs (including home study) for members of the dietetic team. To provide recognition for supportive personnel (assistant and technician), the Hospital, Institution, and Educational Food Service Society was founded.

The American Speech and Hearing Association conducts a national recruitment program for the profession and certifies master's degree applicants. Opportunities exist for speech pathology/audiology majors in classroom teaching, education for the exceptional child, community and public health service, private practice, research, psychology, dentistry, even

medical training. Assistantships, fellowships, and traineeships are available. Positions in the field, on an other than professional level, include communication aide and audiometrist.

The American Occupational Therapy Association, Inc. has several career entry and advancement possibilities. In addition to enrolling in an academic program to become an occupational therapy assistant, one can enter through military training programs and probably in 1975 through proficiency examinations under development with the National Institutes of Health. The assistant can become a therapist through completion of an academic program, through work experience and certification examination, and also, probably in 1975, through proficiency examinations. Holders of baccalaureate degrees in other fields are eligible for graduate programs leading to employment as occupational therapists.

In addition to continuing to encourage and accredit programs for Medical Record Administration and Medical Record Technology to meet the growing demand for skilled personnel in this field, the American Medical Record Association has developed opportunities for medical records employees for increasing their knowledge of current practices and procedures through correspondence. Courses in medical transcription and medical record technology are offered and are fully accepted equivalents of formalized education. These are available in the form of correspondence courses with materials such as texts, tapes and workbooks. This is preparation for the certifying examination for medical record technicians.

In recent years the emphasis on credentials for employment in the health field has grown. The lack of specified credentials not only hinders entry into allied health occupations and advancement on a career ladder, but also impedes mobility between health facilities for the individual health worker.

Some progress has been made toward alleviating this situation by the provision of alternatives to attendance in established educational programs which qualify an individual for a particular occupation. At present there are nationwide proficiency examinations for physical therapists and respiratory therapy technicians available for governmental purposes only; that is, for eligibility for federally-funded care. The U.S. Department of Labor is engaged in

contractual arrangements related to proficiency examinations for occupational therapy personnel and radiologic technology personnel. Also, individual states have acted independently: Edison College in Trenton, New Jersey is developing an external degree program for radiologic technologists, and an external degree program for dietetic technicians involving correspondence study is available from Pennsylvania State University in University Park. The American Medical Record Association whose headquarters are in Chicago, continues to offer its correspondence course for medical record technicians. Medical laboratory technicians have two routes to employment outside a regular educational program: successful completion of the proficiency examinations offered by the College Level Examination Program in Medical Technology at most New York City colleges or available independently by application to the Program at Princeton, or obtaining a New York City trainee license which after six months to two years of employment in a medical laboratory entitles an individual to take the regular license examination for medical laboratory technicians. Alternative tracks such as these could be constructively applied to many other allied health occupations.

This emphasis on vertical mobility and acquisition of additional credentials overlooks the reality that permanent careers on lower steps of the career ladder can offer real satisfaction to some individuals and contribute to the delivery of good health care. The results of the interviews of LMC employees described in Chapter I testify to this. An impersonal job-description and career ladder categorization should not replace the personal gratification essential to good patient care.

CHAPTER IV

Core Curricula

It was hoped that an analysis of curricula of allied health careers programs to find common patterns would lead to the establishment of core curricula in educational institutions which, in turn, would serve several useful purposes. The use of core curricula in educational institutions concerned with preparation for the allied health professions should

1. make more efficient and economical use of the resources of both the institution and the student,
2. assist the student in choosing a particular health career to follow by providing a core of learning/information on which to base the decision and more time in which to make it.
3. allow the student to shift from one program to another upon broader exposure to health careers without losing credit, and
4. enhance the health team concept through interdisciplinary studies.

Our analysis of curricula began with the detailed charting of the course components of each pertinent training program at the schools within the easiest commuting distance of Sunset Park-Bay Ridge. From these charts we compared the courses of study for the different professions within individual institutions.

Core courses for the allied health professions have been developed and put into operation on both the college and high school levels in some schools around the United States.

For example, Kellogg Community College in Battle Creek, Michigan, has instituted a one-semester core curriculum which includes English, psychology, anatomy and health technology. Following this semester students may choose to study to become dental assistants, dental hygienists, practical nurses, associate degree nurses, medical assistants, physical therapy assistants or radiologic technologists. The Biomedical Interdisciplinary Curriculum Project in Berkeley, California, offers a two-year high school curriculum which aims to prepare students for higher education leading to careers in the health field.

In the New York area, Downstate Medical Center's upper division College of Health Related Professions offers "common courses" presented by faculty of various departments, but they are taken over the course of a year and are not necessarily required. At the School of Allied

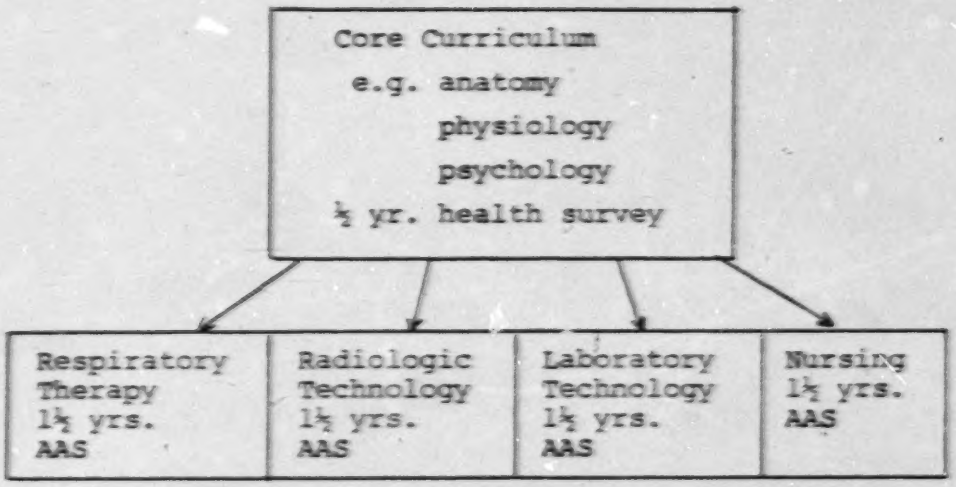
Health Professions, State University of New York at Stony Brook, all students must take the 21 credits of what is more truly a core curriculum. Although this core of courses is required, students may take them over a period of two years.

The community colleges in our geographic area offer little in the way of core curricula which would serve the purposes listed above. We have suggested for consideration by these two-year colleges a curriculum such as the one offered at Kellogg. Generally, the school representatives claim that the administrative obstacles to attempting such a change in existing programs would be insurmountable. Among the obstacles are departmental territorial imperatives, and the different order of priorities perceived by each department within a single subject. For example, in anatomy, departments for dental hygienists want to begin with the study of the mouth, and departments teaching maternity nursing prefer beginning with the pelvis. It would seem that insufficient thought has been applied to the possibility of developing an initial common laboratory experience for all health field students in conjunction with a common health technology course.

The impression of resistance to change was reinforced during a meeting with another local community college health services administrator. This administrator is a proponent of core curriculum for students preparing for allied health occupations, but has been unsuccessful in repeated attempts to institute common courses at her institution. Her efforts were rejected because of 1) opposition to segregation of health science students from the rest of the student body in mathematics and English classes, 2) resistance from the mathematics and English departments and 3) concern that changed curricula would impede transfers to four year institutions. This administrator supported our notion of implementing a core or health survey course at LMC because as a useful educational component, it might readily be awarded academic credit by the growing number of institutions which recognize the value of knowledge acquired in other than the standard settings.

One school expresses interest in our proposal for a core curriculum in business/health field skills which would provide a base from which students could branch off into studies leading either to positions as medical record administrators or unit managers. The school is now seeking to interest several hospitals in giving released time to selected employees desirous of upgrading so that a demonstration of the proposed curriculum may be attempted.

The obstacles to acceptance of a full core curriculum lead us to believe that more emphasis might be placed on introducing the core of studies in the single health survey course discussed earlier. A detailed course description appears as Appendix B. This course on a three-credit basis could easily be absorbed within a standard program of study. It could, however, follow a pattern similar to that at Kellogg Community College as a single course which is part of the core curriculum making up the first half-year of an associate degree program. After this half-year of basic studies and with more information, the student could rationally choose his career. The following figure illustrates this:



We have developed lists by subject which indicate those allied health careers likely to include the given subject in their training programs (Appendix C). These could serve as a basis for developing the first half year core.

CHAPTER V

Affiliation Agreements

Historically, the various allied health professions have developed when a need has become apparent at the level of patient care and an additional function has then been performed by a traditional employee who was trained for it on the job. For instance, when new x-ray equipment and respirators were developed one or two hospital workers were usually trained by the physician to operate the equipment and to administer the diagnostic procedure or treatment to patients. Gradually, as the procedures were more widely needed and used, training programs were started so that more workers could be trained simultaneously.

As larger numbers of workers were trained with similar skills they frequently formed associations to keep the profession's practice standards high and to improve the training of students coming into the discipline. In most fields, formal standards were developed by the graduates of programs in conjunction with physicians from the pertinent specialty, such as the radiologist or specialist in pulmonary diseases. Each association grows and develops its own set of ethical standards and eventually some kind of certification or licensure is sought and a new profession is born.

After a profession and its training program have been solidly established and standardized, the training responsibility has often shifted from the hospital to an educational institution such as college or university. This has happened in nursing and many other allied health professions such as x-ray technology, respiratory therapy and medical technology.

The transfer of educational responsibility from the hospital to an educational institution has often occurred when a discipline has amassed a theoretical body of knowledge. But education should be a planned sequential process which has as its goal not only changed behavior in learners through acquisition of knowledge, but also changed attitudes and improvement of skills. This does not mean that learning does not or cannot take place in the hospital or other settings, but the responsibility has shifted.

Too often in the change, however, an undesirable isolation has developed between the hospital and the educational institution. The hospital, which at one time did all the training for certain disciplines, now

feels little or no responsibility for the students because the program is being run by a university.

One unfortunate result is evident in nursing in the New York area - some administrators are reluctant to hire graduates from the very programs which affiliate with their institutions. (This is particularly true of associate degree nursing programs.)

The clinical and educational institutions have a common stake in the production of highly qualified practitioners and they are dependent on one another. Even though the educational institutions have responsibility for the students' program of learning, the health providers are the future employers and it is ultimately to their benefit that they be involved in making the learning experience as meaningful as possible. Both the clinical and didactic portions of a student's education are essential for a satisfactory result. Consequently, the affiliation agreements between educational and clinical institutions should reflect a true partnership in the education of health workers.

Ralph Kuhli of the A.M.A. suggested some expressions of this training partnership between didactic and clinical training institutions this spring at a New York symposium on allied health manpower. For example:

- -The tuition collected from students should be shared with the clinical facility; sick people should not be billed for the expenses of education.
- -The clinical instructors should be given the status of a listing in the college catalog as faculty members -- they need not necessarily be put on the faculty payroll, however.
- -When the college or university sends its students to a clinical facility, the college or university should make sure that higher education is taking place (no one wants to use students for cheap labor).
- -There should be feedback -- a closed loop -- of information between the directors of allied medical educational programs and the employers of graduates. Our concern is very specific: we want to make sure that students are taught what they need to know for the job.

With all of this in mind, we undertook to develop a prototype affiliation agreement understanding that some variations may be necessary in the different disciplines.

The effort began with research and a study of the agreements in use at Lutheran Medical Center (LMC) and two other hospitals, and exploratory discussions about possible changes in these agreements with representatives of both clinical and academic institutions.

The affiliation agreements that Lutheran Medical Center has had with academic institutions range in form from casual non-specific statements to formal contractual documents. Some items which are included in one or another of the agreements are:

1. hospital responsibilities for such things as teaching, insurance, meals, uniforms and lockers for students and teachers
2. regulation of all news releases, published reports and other public communications regarding the affiliations
3. responsibility for schedules
4. hospital staff orientation to the program
5. emergency medical care for students
6. number of students affiliating
7. number of hours students affiliate
8. health of students
9. responsibility for curriculum
10. use of library facilities
11. disciplinary problems; removal of students from the program

Among the affiliations are allied health manpower training programs for:

New York City Community College medical technology students,
New York City Community College x-ray technology students, and
Downstate Medical Center physical therapy students.[1]

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[1] LMC also has had the following educational and training programs which are outside the purview of this contract:

Downstate Medical School medical residents and interns;
New York City Community College, Staten Island Community College, Kingsborough Community College and Wagner college nursing students;
Downstate Medical Center radiology administration students;
Long Island University pharmacy students;
Hofstra College audiology students;
Columbia University, State University of New York at Stony Brook and Baruch College hospital administration students;

In examining our own and other programs it was apparent that some had clear-cut objectives for the students, including a college instructor with them at all times; other programs required instruction by hospital personnel with objectives worked out by the hospital supervisor. In some programs students were sent for observation and exposure with only a requirement of a certain number of hours to be spent in the clinical facility. No objectives were sent by the college to the hospital so the kinds of experience the student should receive remained unspecified.

All of the affiliations at Lutheran Medical Center have been handled until now by individual department heads with the approval of administration rather than one person taking responsibility for all affiliation agreements. Decentralization of operations wherever feasible is Lutheran Medical Center administration policy. The advantage of this approach is that the individual department head is in the best position to recognize the constraints imposed by his staff and physical facilities and he can act appropriately. In some hospitals a central person establishes the relationships and deals with all affiliations regardless of department. This can help prevent over-extension of hospital facilities and assure that the hospital's best interests are served.

It is not clear that one or the other of these approaches would serve all hospitals best. However, a centralization of training and affiliation decisions appears to permit greater efficiency in recognizing and addressing common needs of the affiliating students. A potential outcome could be an interdisciplinary core program.

One large voluntary metropolitan hospital in particular which has more requests for affiliations than it can handle, will not in the future sign an affiliation agreement initiated by a college but plans to have the colleges sign an agreement the hospital has prepared. In this agreement the hospital's responsibility for the students and teachers is delineated. This institution has determined that in most instances student clinical experience costs the hospital more money than is saved by the services they render. The expenses are noted in:

New York Theological Seminary and Luther Theological Seminary clinical pastoral education students; Columbia University health planning students; and State University of New York at Buffalo urban planning students.

1. direct costs such as for extra supplies, maintenance, staff time in lectures, orientation, supervision, and curriculum meetings and
2. indirect costs such as for activities that would have been performed if staff had not been engaged in student activities.

This cost differs greatly among the disciplines and it must be balanced against whatever the hospital gains as a result of student activity. Therefore it seems logical that there be some kind of remuneration in the affiliation agreements, such as cash payments, payments in the form of tuition, accumulation of tuition credits for use by hospital employees (tuition bank), and academic appointments for teaching supervisors. In some cases this hospital simply considers an affiliation a community service. In any event its affiliation agreements are quite specific.

The local Veterans Administration Hospital prefers that the affiliations be flexible and non-specific because otherwise the steps involved in making even a minor change are extremely time consuming. The V.A. hospital is also unique in that it has the funds available to provide full-time teachers for some affiliating students (such as in the laboratory), so their affiliations in the area need not specify other sources of teaching and supervision from among the regular hospital staff.

This more informal method has its advantages, according to a study by Dr. Cecil G. Sheps of the University of North Carolina. After reviewing over 150 contracts he found that the most satisfactory relationships existed when there was a simplified contract. If the contract was very detailed, there was often a lack of trust or understanding of shared goals. However, contracts should be written since they inform the hospital director of the extent of the involvement his hospital has with other institutions.[2]

There has been increasing interest in estimating the cost of students to the institutions providing training sites including consideration of this in affiliation agreements. For most institutions, however, it is difficult to arrive at a precise assessment of this cost. Usually students share space, personnel, equipment and materials with other hospital operations rather than using them exclusively. Departments would be hard put to determine

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[2] Sheps, Cecil, et al. "Medical Schools and Hospitals: Interdependence for Education and Service." Journal of Medical Education, September, 1965.

the fraction of use that could be fairly applied to training purposes.

By speaking with heads of departments at Lutheran Medical Center in which students are assigned as well as other personnel involved with student education we have identified areas in which a cost factor is involved. However, no determination of the actual cost in dollars has been made as it does not fall within the scope of this contract. Appendix D describes the areas at LMC in which there are cost factors.

If the cost were to be determined it would then be necessary to decide what form remuneration should take. It might be in the best interest of all concerned to bypass cash transfers in favor of in-kind payments such as a tuition credit bank.

Our task groups and advisory council have considered affiliation agreements and have raised the following points:

-Regular planned communication between the clinical and academic institutions is of great importance so that standards, objectives and content of training can be coordinated continuously. Meetings should include not only directors of programs, but all those who are in direct contact with students such as head nurses, clinicians and clinical instructors. Perhaps it could be a requirement built into the affiliation agreement and/or conducted through a consortium.
-There was some discussion about having an instructor serve a dual role as college faculty and clinical staff. Regular meetings between the staff of the educational institution and clinical sites were also considered desirable as was hospital involvement in curriculum planning committees.

These last two suggestions would have the desirable effect of reinforcing the impact of the clinical facility on curriculum design and content. The hospital preceptor could provide an excellent conduit for relaying the changing requirements of clinical service as well as bringing to the hospital staff news of current thecretical developments from the academic institution. A closer tie between clinical and didactic instructional staff would permit synchronization of the subject matter rather than omission or mere duplication and maximum utilization of resources. This solidification of the hospital's impact on the content of training for health careers would validate acknowledgement

of its role as a clinical campus and improve the quality of the personnel entering health-related occupations. Recognition and appointment of clinical instructors as adjunct faculty strengthens this relationship.

In the development of the prototype agreement we were aided by the work done by Margaret Moore, Mabel Parker and E. Shepley Nourse as described in Form and Function of Written Agreements in the Clinical Education of Health Professionals. They describe a profile of a contract based on questionnaires and an analysis of 60 written agreements done before and during workshops held in 1969 and 1970.[3] They compiled topic areas to be discussed by representatives of both parties to an agreement and suggest that the written agreement include provision for the issues on which both parties agree. These include:

1. the purpose of the affiliation from the points of view of both the academic and clinical institutions;
2. the objectives of the affiliation shared by the parties while each agency remains autonomous;
3. exchange of joint responsibilities covering such topics as provisions of meetings for supervisors, mechanism for curriculum changes, faculty appointments, non-discrimination clause, etc.;
4. responsibilities of the university;
5. responsibilities of the clinical site;
6. responsibilities of students;
7. mechanics for maintaining and modifying agreements and for arbitrating disputes;
8. signatures of those responsible for the agreements.

We drafted a prototype agreement on the basis of all we learned and submitted it to members of our Advisory Committee as well as other concerned people, such as heads of departments who have student affiliations, for comments and suggestions. The Dean of Health Sciences at one of the local community colleges said that City University has recently organized a task force on clinical affiliation and that he had held discussions with his departmental chairpersons regarding the sample agreement. They all agreed with the model contract concept and felt that the most

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[3] The workshops were held at the School of Medicine, University of North Carolina at Chapel Hill. Participants were educators, clinical faculty and other allied health professionals from universities, clinical centers, community colleges and several national and governmental agencies.

important component should be the strengthening of communication between the clinical and academic institutions. In addition, the university representatives stressed that allowance must be made for the benefits that students bring in determining the cost of students to hospitals.

Another issue raised by the college representatives concerned the student's right to grant or withhold permission for his health reports to be made available to the clinical institutions. Hospitals want the option of seeing student health records if there is a chance the students' health condition might be detrimental to patient care. This may not be a real issue because in at least some instances the hospital requires a health certificate from the college's student health service.

Concerning the questions of legal liability for the student's actions, the contract states that the college takes responsibility for the behavior of student and faculty. However, it is not clear that the hospital and or department director would always remain free of liability. The statement would at best only insure a sharing of any liability. Probably no contract can take away the individual's right to bring suit.

The hospital representatives voiced interest in participating in curriculum planning as well as the right to pass on the qualifications of academic faculty before they supervise students in the clinical environment. College nursing faculty assigned to the clinical area have not always met the criteria of hospital nursing departments and administrators have asked for the right to participate in the selection of clinical instructional staff. One hospital representative suggested that an advisory committee of college, hospital and student representatives be established to oversee affiliations within each department. This committee would be the vehicle for hospital participation in curriculum planning and faculty selection as well as for discussion and solution of problems which arise during the student experiences.

The prototype affiliation agreement developed by the project staff appears as Appendix E.

As part of the process of developing the prototype affiliation agreement we originally initiated discussions at meetings of our interdisciplinary technical panel. (This was the part of our advisory committee which worked

with the contract staff on narrowly focused issues.) It became clear after several meetings that different groups would have to be formed because each discipline had unique problems.

It was also apparent that personnel in colleges and hospitals working in the same discipline seldom sought the opportunity to communicate with one another for the exchange of ideas and mutual planning. This situation unfortunately has resulted in the graduation of students who do not meet the needs of service institutions.

Although nursing was not within the purview of this contract it was evident to hospital staff as a result of the task group discussions that nursing was in particular need of a forum for exchange between clinical and didactic staff. A crisis had developed in which many nursing administrators felt that graduates of associate degree programs in our area were so poorly prepared that they refused to hire them without previous experience.

The meetings which were held in nursing were beneficial in making both clinical and academic representatives aware of the other's concerns and of how they could work together to solve problems. The meetings have also precipitated a mutual desire to continue the dialogues to improve the quality of nursing education.

Representatives of other health disciplines have voiced the same need for dialogue between educators and clinicians. Consequently, the project staff convened intradisciplinary meetings in radiologic technology, medical laboratory technology and physical therapy. The mechanism and contacts have been established and we have reason to believe that these discussions will continue on a regular basis.

CHAPTER VI

Conclusion

An ideal allied health manpower training model for a community such as the one served by Lutheran Medical Center might constructively be broader in concept than the one detailed in these pages.

Optimally, the model should encompass a permanent training department in the hospital which would not only be a resource for employees but for all community residents. In addition to its traditional functions, fixed components of this training department would be:

1. counseling and career guidance,
2. coordination of affiliation agreements and
3. consortium participation.

A broad-based consortium, such as the borough-wide effort being made in Brooklyn now, could serve as a clearinghouse for employment listings and continuing clinical/academic dialogue on all health manpower training concerns: gaps, inadequacies and changing functions and technology.

As indicated earlier, it is sensible, and probably essential to good health care, that the hospitals exert a strong influence on the type of training and education available to health personnel. However, if reason alone cannot prevail, the hospitals are in a position to insist upon being heard because they hold the limited supply of clinical training sites required by the schools.

It may be difficult for relatively small community hospitals to effect change, but a number of such facilities acting in concert add up to a powerful force. Here, too, it would appear that the consortium could serve both as the administrative mechanism for the organization of health facilities, and the forum for discussions with academe.

The development of a thorough allied health manpower training model is frustrated by the fragmentation of focus imposed by national legislation. Consideration of a community's allied health manpower training requirements is hampered because the contract does not permit examination of the impact on job functions of possible future utilization of, for example, unit managers and nurse practitioners; or modes of worthwhile training different from the traditional degree-granting mold. Probably, a complete and ideal training model would delineate the

interaction between the usual training patterns and high school pre-vocational preparation, hospital orientation programs, internships, in-service education, and individualized tutoring support that could be offered by hospitals to employees seeking external degrees.

This having been said, we believe the model presented in this report, which acknowledges the restricted scope of the contract, is a good one. Implementation of it would serve the people of Sunset Park-Bay Ridge well: it would guide them toward sound training for jobs that are expected to be available for them. With appropriate changes reflecting the different allied health training resources available to particular geographic areas, the model can be readily emulated by communities elsewhere.

APPENDIX A

Health Careers Guide

HEALTH CAREERS GUIDE

Prepared by

Allied Health Manpower Training Model Project
Lutheran Medical Center
Brooklyn, New York

December, 1974

LUTHERAN MEDICAL CENTER

Health Career Data Sheets

blood bank technologist
dental hygienist
dietetic technician
dietitian
hematology technologist
medical diagnostic sonographer
medical laboratory technician
medical record administrator
medical record technician
medical technologist
nuclear medicine technologist
occupational therapist
occupational therapy assistant
physical therapist
physical therapy assistant
radiation therapy technologist
radiologic technologist
respiratory therapist
speech pathologist and audiologist

Occupational Titles and Length of Training

2 Years (ASSOCIATE DEGREE)	4 Years of more (BACCALAUREATE DEGREE, MASTER'S DEGREE, CERTIFICATE)
OCCUPATIONAL TITLE	OCCUPATIONAL TITLE
Respiratory Therapist	Radiologic Technologist
Radiologic Technologist	Radiation Therapy Technologist+
Nuclear Medicine Technician	Nuclear Medicine Technician+
Medical Laboratory Technician	Medical Technologist
Medical Records Technician+	Medical Records Administrator
Physical Therapy Assistant+	Physical Therapist
Dental Hygienist	Occupational Therapist+
Dietetic Technician+	Audiologist
	Speech Pathologist+
	Dietitian
	Blood Bank Technologist

+ Not at LMC at present

Lutheran Medical Center
December, 1973

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Blood Bank Technologist (license or certificate of qualification required)

Job Description: The blood bank technologist collects blood from donors; then, utilizing chemical procedures, classifies (type and cross-match) and processes, and stores it so it can be instantly available, either as whole blood or as plasma. This work is done in hospitals, clinics, and special blood bank centers. Approximate starting salary: $10,500

Educational pattern: training program

Prerequisites: Medical Technologist status, or a Bachelor of Science degree plus one year experience

Length of program: one year

Program of study: blood type systems, transfusions, principles of blood bank procedures, serologic tests

Upon completion: eligible for certification by the Board of Registry of the American Society of Clinical Pathologists

Schools: hospital laboratories

Requirements for certification:
1. one year training program
2. certification examination

Requirements for licensure:
1. certification by the Board of Registry, or
2. baccalaureate degree in biological, chemical or physical sciences and one year experience in blood banking which may be part of college curriculum, or
3. equivalent education or experience and successful examination in transfusion technology.

Additional information:
Board of Registry of Medical Technologists
American Society of Clinical Pathology
Box 4872
Chicago, Illinois 60680

American Association of Blood Banks
1828 L Street N.W.
Suite 608
Washington, D.C. 20036

New York City Department of Health
Health Services Administration
125 Worth Street
New York, New York 10013
566-7711

The blood bank technologist has more training and is given more responsibility than the Medical Laboratory Technician specializing in blood banking. This specialization is one of several which follows training in medical technology.

January, 1974

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Dental Hygienist (license required)

Job Description: The dental hygienist provides oral hygiene services prescribed by a dentist. These include cleaning, and polishing teeth, massaging gums, making applications which retard tooth decay, charting conditions of decay and disease, taking and developing x-rays, acting as a chairside assistant to the dentist, and providing counseling to patients. Approximate starting salary: $9,500

Educational patterns:
1. associate degree program
2. baccalaureate degree program

Prerequisites:
1. for associate degree program - high school diploma
2. for baccalaureate degree program - two years of college and a Red Cross First Aid certificate

Length of program:
1. associate degree program - two years
2. baccalaureate degree program - four years

Program of study: oral hygiene theory and practice; liberal arts, basic sciences; dental radiology

Upon completion:
1. award of Associate in Applied Science degree (A.A.S.) or Bachelor of Science degree (B.S.)
2. eligible for New York State licensure examination

Schools:

New York City Community College
300 Jay Street
Brooklyn, New York 11201
643-4900
(A.A.S.)

Columbia University
School of Dental and Oral Surgery (Program A)
630 West 168th Street
New York, New York 10032
579-3472
(B.S.)

Requirements for licensure:
1. two-year approved program
2. American citizenship or legal declaration
3. licensure examination

Additional information:

State Board of Dental Examiners
State Education Department
Albany, New York 12224

American Dental Hygienists Association
211 East Chicago Avenue
Chicago, Illinois 60611

In addition to Program A for persons desiring to become dental hygienists, Columbia University offers Program B in dental hygiene to the person who is already a dental hygienist and who would like to complete work for a Bachelor of Science degree (B.S.). Many of the people completing this program go into teaching. The University also provides a graduate refresher course and master's degree program.

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Dietetic Technician

Job description: The dietetic technician assists a dietitian or dietary administrator in providing food service management (assessment, planning, implementation, and evaluation of menus, products, quality control, sanitation, cost control etc.) and/or nutritional care services (assessment of the patient situation, implementation of the care plan). Approximate starting salary: $9,000 - 10,000

Educational patterns: associate degree program

Prerequisites: high school diploma

Length of program:
1. for associate degree program - 2 years
2. for external degree - varies

Program of study: production systems, service systems, management, sanitation

Upon completion: award of Associate in Applied Science degree

Schools:
New York City Community College
300 Jay Street
Brooklyn, New York 11201
643-8590

Food Service and Housing Administration
College of Human Development
Pennsylvania State University
University Park, Pennsylvania 16802
(external degree)

Additional information:
Hospital Institution and Educational Food Service Society
American Dietetic Association
620 North Michigan Avenue
Chicago, Illinois 60611

January, 1974

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Dietitian (certification required of chief dietitian)

Job description: The dietitian in health care uses the physician's order to plan general and modified meals to meet nutritional requirements. As an administrative dietitian he/she applies nutritional science and management skills in the direction of group feeding operations. Therapeutic dietitians plan with physicians to meet the needs of individual patients: they calculate modified diets, discuss food likes and dislikes with patients, and instruct them and their families in nutrition. Approximate starting salary: $10,000 - 11,000

Educational pattern: baccalaureate degree program

Prerequisites:
1. high school diploma - course in science recommended or
2. 2 years of college for upper level entry (Hunter, Downstate)

Length of program: four years

Program of study: management of food service: normal nutrition: diet therapy, patient education: liberal arts and sciences

Upon completion:
1. award of Bachelor of Science degree (B.S.)
2. after one year internship, eligible for certification by the American Dietetic Association

Schools:

Hunter College
695 Park Avenue
New York, New York 10021
360-2311
(Department of Home Economics Option B)

New York University
Washington Square
New York, New York 10003
598-3127

Brooklyn College
Avenue H and Bedford Avenue
Brooklyn, New York 11210
780-5446

Downstate Medical Center
450 Clarkson Avenue
Brooklyn, New York 11203
270-1000

Pratt Institute
215 Ryerson Street
Brooklyn, New York 11205
636-3600

Requirements for certification:
1. completion of an approved program
2. internship - 6 months to a year or 3 years of preplanned experience

Additional information:
The American Dietetic Association
620 North Michigan Avenue
Chicago, Illinois 60611

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Hematology Technologist (license or certificate of qualification required)

Job description: The hematology technologist uses tests to determine illnesses that primarily affect the blood, such as anemia, hemophilia and leukemia. Some of these tests involve hemoglobin sedimentation rate, blood volume, red cell counts, white blood cell differential, and coagulation. Approximate starting salary: $10,000-11,000

Educational pattern: on-the-job specialization

Prerequisites:
1. Medical Technologist status, (M.T.) or
2. Bachelor of Science degree (B.S.)

Length of program:
1. for Medical Technologist - one year
2. for B.S. holder - two years

Program of study: the preparation of hematology tests to facilitate the diagnosis of illnesses affecting the blood

Upon completion: eligible for certification by the Board of Registry of the American Society of Clinical Pathologists

Schools: hospital laboratories

Requirements for certification:
1. M.T. status plus one year experience, or B.S. degree plus two years experience
2. certification examination

Requirements for licensure:
1. certification by the Board of Registry, or
2. baccalaureate degree in biological, chemical or physical sciences and one year experience in hematology which may be a part of college curriculum, or
3. equivalent education or experience and successful examination in hematology

Additional information: Board of Registry of Medical Technologists
American Society of Clinical Pathologists
Box 4872
Chicago, Illinois 60680

New York City Department of Health
Health Services Administration
125 Worth Street
New York, New York 10013
566-7711

This specialization is one of several which follows training in medical technology.

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Medical Diagnostic Sonographer

Job description: The medical diagnostic sonographer examines the patient with painless, harmless ultrasound. Through the use of ultrasound he/she can differentiate tissues of different densities and measure the size of body structures. Approximate starting salary: $12,000

Educational pattern: baccalaureate degree program

Prerequisites:
1. 2 years of college and
2. Radiologic Technologist status

Length of program: 2 years

Program of study: the properties of ultrasound; the examinations performed with ultrasound

Upon completion: award of Bachelor of Science degree (B.S.)

Schools: Downstate Medical Center
College of Health Related Professions
450 Clarkson Avenue
Brooklyn, New York 11203
270-1000

Sonography is one of the several divisions within a radiology department. Lutheran Medical Center has its nuclear medicine technologists handling the sonograph.

January, 1974

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Medical Laboratory Technician (license or certificate of qualification required)

Job description: The medical laboratory technician, under the supervision of medical technologists, performs testing procedures such as collecting blood specimens, identifying blood types, doing blood counts and urinalyses, growing cultures, analyzing chemical components of body fluids, and preparing and staining slides for microscopic study. He/she also sets up equipment and records results. Technicians almost always specialize in one of the divisions of the laboratory: chemistry, blood banking, hematology, histology, microbiology, or cytology. He/she performs duties more complex than the technical duties assigned to the laboratory assistant but does not undertake the supervisory and educational responsibilities of the medical technologist. Approximate starting salary: $9,500

Educational patterns:
1. associate degree program
2. proficiency testing
3. on-the-job training

Prerequisites:
1. high school diploma
2. high school courses in biology, 9th-11th year math, and chemistry recommended

Length of program: two years

Program of study: basic sciences; mathematics; clinical chemistry, hematology, urinalysis, blood banking, histology; humanities

Upon completion:
1. award of Associate in Applied Science degree (A.A.S.)
2. receive license from New York City Health Department
3. eligible for certification by the Board of Registry of the American Society of Clinical Pathologists

Schools: New York City Community College
300 Jay Street
Brooklyn, New York 11201
643-8590

Staten Island Community College
715 Ocean Terrace
Staten Island, New York 10301
390-7733

Requirements for certification:
1. associate degree program, or any associate degree and 5 years experience
2. certification examination, except if certified laboratory assistant status has already been attained

Requirements for licensure:
1. associate degree in medical laboratory technology, or
2. 60 college credits including chemistry, mathematics, and biology or microbiology, and one year laboratory experience, or
3. high school graduate and two years as a laboratory trainee and successful practical examination, or
4. high school graduate, 6 months as a trainee or one year laboratory experience, and successful written examination.

Additional information:

Board of Registry of Medical Technologists
American Society of Clinical Pathologists
Box 4872
Chicago, Illinois 60680

College Level Examination Program (Med. Tech.)
P.O. Box 592
Princeton, New Jersey 08540

New York City Department of Health
Health Services Administration
125 Worth Street
New York, New York 10013
566-7711

Any individual deemed capable may obtain a trainee license from the N.Y.C. Department of Health. After a period of from 6 months to 2 years in an approved laboratory, the trainee may take the examination for a regular license.

A person who has completed an A.A.S. program will receive a license after supplying the necessary credentials. All specialties except blood banking are listed. If licensure in blood banking is desired a separate test is required.

Certification by the Board of Registry is not required for employment, but is a preferred credential.

Health Career Data Sheet

Occupation: Medical Record Administrator (registration required for full professional standing)

Job description: The medical record administrator sees that a complete, continuous, and accurate record is kept for each patient from the time of his admission to the time of discharge. He/she ensures that uniform medical terminology is used, prepares medical and statistical reports which are used in directing operations and formulating policy, analyzes a great volume of records for manual or computerized storage, and releases information from the record files to authorized persons. Approximate starting salary: $15,000

Educational patterns:
1. baccalaureate degree program
2. certificate program

Prerequisites:
1. for baccalaureate degree program - two years of college liberal arts and science
2. for certificate program - baccalaureate degree

Length of program:
1. baccalaureate degree program - 2 years after 2 years liberal arts and science
2. certificate program - 2 years

Program of study: the techniques of storage, retrieval, and dissemination of information as it relates to the patient's health care; liberal arts and sciences, computer sciences, administration, law; directed clinical experience

Upon completion:
1. award of Bachelor of Science degree (B.S.) or certificate (if some other baccalaureate was completed)
2. eligible for registration by the American Medical Record Association

Schools:

Hunter College
Institute of Health Sciences
105 E. 106 Street
New York, New York 10029
360-5073
(B.S. or certificate)

Downstate Medical Center
College of Health Related Professions
450 Clarkson Avenue
Brooklyn, New York 11203
270-2626
(B.S.)

Requirements for registration:

1. B.S. degree or certificate
2. registration examination

Additional information:

American Medical Record Association
875 North Michigan Avenue - Suite 1850
Chicago, Illinois 60611

Health Career Data Sheet

Occupation: Medical Record Technician

Job description: The medical record technician assists the medical record administrator in the technical work of maintaining and compiling complete and accurate medical records, reports, disease indexes, and hospital statistics. Because many hospitals, clinics, teaching, and research centers are now using the computer as a record-keeping tool, some record technicians also possess computer-related skills. Approximate starting salary: $8,500

Educational patterns:
1. associate degree program
2. correspondence course

Prerequisites:
1. for associate degree program - high school diploma
2. for correspondence course - current employment in medical records, typing and high school diploma

Length of program:
1. associate degree program - 2 years
2. correspondence course - 25 lessons (1 every 2-3 weeks)

Program of study: the maintenance of medical records and the preparation and analysis of health information; associate degree program includes liberal arts and sciences and clinical experience

Upon completion:
1. award of Associate in Applied Science degree (A.A.S.) or certificate
2. eligible for accreditation by the American Medical Record Association

Schools:

Borough of Manhattan Community College
1633 Broadway
New York, New York 10020
262-3592

Correspondence Education Department
American Medical Record Association
875 North Michigan Avenue - Suite 1850
Chicago, Illinois 60611

Requirements for accreditation:

1. completion of an approved program
2. accreditation examination

Additional information:

American Medical Record Association
875 North Michigan Avenue - Suite 1850
Chicago, Illinois 60611

January, 1974

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Medical Technologist (license or certificate of qualification required)

Job description: The medical technologist performs chemical, microscopic, bacteriologic, and other laboratory tests and procedures which aid physicians in detecting, diagnosing and treating diseases. For example, they count blood cells, do blood groupings; perform chemical and bacteriologic tests of body fluids; prepare tissue specimens; identify microorganisms found in air, milk, water; and operate special instruments. Medical technologists often specialize in areas such as cytotechnology, chemistry, hematology, blood banking, nuclear medicine and microbiology. Medical technologists work with clinical pathologists and scientists in clinical and research laboratories, hospitals, in health agencies, and in university centers. Approximate starting salary: $10,000

Educational pattern: baccalaureate degree program

Prerequisites:
1. for freshman entry - high school diploma and entrance examination
2. for upper level entry - two years of college including specific sciences and humanities

Length of program:
1. freshman entry - four years
2. upper level entry - two years

Program of study: chemical and biological sciences, clinical laboratory medicine and technology (clinical chemistry, hematology, serology, microbiology, histology, cytology, blood banking), ethics; liberal arts and sciences; internship

Upon completion:
1. award of Bachelor of Science degree (B.S.)
2. eligible for certification by the Registry of the American Society of Clinical Pathologists

Schools: Hunter College
Institute of Health Sciences
695 Park Avenue
New York, New York 10021
360-2415
(upper level entry)

Downstate Medical Center
450 Clarkson Avenue
Brooklyn, New York 11203
270-1000
(upper level entry)

Richmond College
130 Stuyvesant Place
Staten Island, New York 10301
448-8433
(upper level entry)

Pace University
Pace Plaza
New York, New York 10038
285-3010

Long Island University-Brooklyn Center
385 Flatbush Avenue Extension
Brooklyn, New York 11201
834-6100

Wagner College
631 Howard Avenue
Staten Island, New York 10301
390-3000

Requirements for certification:

1. completion of a baccalaureate degree program including specific sciences and 12 months clinical experience, or any baccalaureate degree including specific sciences plus 5 years of experience
2. examination certification

Requirements for licensure:

1. baccalaureate degree in biological, chemical or physical sciences, or medical terminology and one year laboratory experience which may be a part of college curriculum, or
2. certification by the Board of Registry, or
3. equivalent education or experience and successful examination

Additional information:

Board of Registry of Medical Technologists
American Society of Clinical Pathologists
P. O. Box 4872
Chicago, Illinois 60680

American Society of Clinical Pathologists
2100 West Harrison Street
Chicago, Illinois 60612

American Society of Medical Technologists
Suite 403
1725 De Sales Street, N.W.
Washington, D.C. 20036

New York City Department of Health
Health Services Administration
125 Worth Street
New York, New York 10013
566-7711

Certification by the Board of Registry is not required for employment, but is a preferred credential.

January, 1974

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Nuclear Medicine Technologist

Job description: The nuclear medicine technologist receives, positions, and attends to patients requiring radioactive isotopes for diagnosis or treatment. He/she abstracts data from patient records, makes dose calculations from in vivo studies, and assists the physician in the operation of scanning devices which produce organ scans, graphs or counts that chart the function of the organ. Approximate starting salary: $10,000 - 12,000

Educational patterns:
1. on-the-job training
2. hospital program

Prerequisites:
1. for on-the-job training - Radiologic Technologist status
2. for Overlook Hospital - Radiologic Technologist status or Bachelor of Science degree or Medical Laboratory Technology degree
3. for Kennedy Medical Center - two years of college including sciences or health career status requiring a minimum of two years preparation

Length of program:
1. on-the-job training - one year or more
2. hospital program - one year

Program of study: the operation of radioscopic equipment to produce scanograms and measure concentration of radioactive isotopes in the patient

Upon completion:
1. award of diploma
2. eligible for certification by the Board of Registry of the American Society of Clinical Pathologists immediately or after one year experience where lacking

Schools: Overlook Hospital
193 Morris Avenue
Summit, New Jersey 07901
(201) 522-2064

John F. Kennedy Medical Center
James Street
Edison, New Jersey 08817
(201) 321-7000

Requirements for certification:

1. completion of an approved program, or medical technologist status plus one year experience in clinical radioisotope laboratory, or Bachelor of Science degree plus two years experience, or 60 college credits including particular sciences plus 4 years experience, or high school diploma plus 6 years experience
2. certification examination

Additional information:

Board of Registry
American Society of Clinical Pathologists
P.O. Box 4872
Chicago, Illinois 60680

Society of Nuclear Medicine
475 Park Avenue South
New York, New York 10017

Society of Nuclear Medical Technologists
1201 Waukegan Road
Glenview, Illinois 60025

American Registry of Radiologic Technologists
2600 Wayzata Boulevard
Minneapolis, Minnesota 55406

The American Registry of Radiologic Technologists, after July 1, 1976, will require graduation from an educational program in nuclear medicine technology accredited by the Council on Medical Education of the American Medical Association for admission to the registration examination.

January, 1974

[illegible] CENTER
Health Career Data Sheet

Occupation: Occupational Therapist (registration required)

Job description: As part of the rehabilitation team and under the supervision of a physician, the occupational therapist selects and directs purposeful, creative, educational, and recreational activities that will require physical and mental involvement and will aid the recovery of those who are ill, disabled or have birth defects. Approximate starting salary: $10,000 - 11,000

Educational patterns:
1. baccalaureate degree program
2. master's degree program

Prerequisites:
1. for baccalaureate degree program - high school diploma and entrance examination
2. for master's degree program - baccalaureate degree

Length of program:
1. baccalaureate degree - 4 years
2. master's degree - 60 credits

Program of study: liberal arts and sciences: medical sciences, therapeutic skills for productive living, remediation and rehabilitation: normal growth and development: clinical experience

Upon completion:
1. award of Bachelor of Science degree (B.S.) or master's degree (M.A./M.S.)
2. eligible for registration by the American Occupational Therapy Association

Schools:

Columbia University
College of Physicians and Surgeons
630 West 168th Street
New York, New York 10032
579-3761
(B.S., M.S. for students with a non-O.T. degree)

New York University
School of Education
Washington Square
New York, New York 10003
598-3127
(B.S., M.A. for O.T. and non O.T. degree, D.)

Downstate Medical Center
450 Clarkson Avenue
Brooklyn, New York 11203
270-1000
(B.S. plus certificate for 6 months experience)

York College
Allied Health Services
150-14 Jamaica Avenue
Jamaica, New York 11432
969-4040

Requirements for registration:

1. completion of approved baccalaureate degree or master's degree program
2. 6-9 months directed clinical experience
3. registration examination

Additional information:

The American Occupational Therapy Association
6000 Executive Boulevard
Rockville, Maryland 20852

The Department of Labor is engaged in contractual arrangements related to proficiency examinations for occupational therapy personnel.

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Occupational Therapy Assistant

Job description: The occupational therapy assistant works with direction from an occupational therapist in helping emotionally and physically disabled patients to achieve and maintain their ability to function as useful, participating members of their families and communities. He/she fosters interest in hobbies and encourages self-help so that the patient may achieve the highest possible level of independent living. Approximate starting salary: $8,000

Educational pattern: associate degree program

Prerequisite: high school diploma

Length of program: two years

Program of study: the technical skills and crafts for preventive, supportive, and remedial programs of occupational therapy

Upon completion:
1. award of certificate
2. eligible for certification by the American Occupational Therapy Association

Schools:
La Guardia Community College
31-10 Thomson Avenue
Queens, New York 11101
937-9200

Requirements for certification:
1. approved program (20 weeks - 2 years)
2. 2 months directed experience
3. application

Additional information:
The American Occupational Therapy Association
6000 Executive Boulevard
Rockville, Maryland 20852

The Department of Labor is engaged in contractual arrangements related to proficiency examinations for occupational therapy personnel.

Health Career Data Sheet

Occupation: Physical Therapist (license required)

Job description: The physical therapist is concerned with the restoration of physical function and the prevention of disability following disease, injury, or loss of a body part. He/she administers a wide range of therapy using exercises, various stimuli, special instruction, and the use of massage and physical agents such as heat, cold, electricity, and ultra-sound. The therapist also uses special devices and equipment (such as an artificial limb) which increase the patient's ability to care for himself. Approximate starting salary: $11,000

Educational patterns:
1. baccalaureate degree program
2. graduate certificate program

Prerequisites:
1. for baccalaureate degree program - high school diploma for freshman entry or two years of college for upper level program
2. for graduate certificate program - Bachelor of Science or Arts degree

Length of program:
1. baccalaureate degree program
   a. freshman entry - 4 years
   b. upper level entry - 2 years
2. graduate certificate program - 1-2 years

Program of study: the principles and procedures of physical therapy; basic sciences, medical sciences; personality changes that affect the patient and his family; clinical experience

Upon completion:
1. award of Bachelor of Science degree (B.S.), certificate, or master's degree (M.A./M.S.)
2. eligible for New York State licensure examination

Schools: Hunter College
695 Park Avenue
New York, New York 10021
360-5062
(B.S., certificate)

Columbia University
College of Physicians and Surgeons
630 West 168th Street
New York, New York 10032
579-3781
(B.S., certificate)

New York University
School of Education
Washington Square
New York, New York 10003
598-3127
(B.S., certificate)

Downstate Medical Center
450 Clarkson Avenue
Brooklyn, New York 11203
270-1000
(B.S.)

Long Island University-Brooklyn Center
385 Flatbush Avenue Extension
Brooklyn, New York 11201
834-6020
(B.S.)

Kingsborough Community College
2001 Oriental Boulevard
Brooklyn, New York 11235
769-9200
(Pre-Physical Therapy program for transfer to senior college)

Requirements for licensure:

1. B.S. in Physical Therapy, or a post-graduate certificate
2. examination
3. American citizenship or legal declaration

Additional information:

State Board of Medical Examiners
State Education Department
Albany, New York 12224

American Physical Therapy Association
1156-15th Street N.W.
Washington, D.C. 20005

Master's degree programs for advanced training in physical therapy for teachers, researchers, and clinicians are offered at Long Island University (Department of Health Science and Physical Education - Program B) and at New York University.

A proficiency examination for physical therapists is administered solely for government purposes, e.g. relative to Medicare eligibility:

Professional Examinations Program Manager
Bureau of Quality Assurance
Division of Medical Care Standards
5600 Fishers Lane
Rockville, Maryland 20852

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Physical Therapy Assistant

Job description: The physical therapy assistant is a skilled technical health worker who performs treatment procedures and assists the physical therapist with complex care plans. These may include the application of heat and cold, water baths, electricity, massage, and those kinds of exercises and activities which will help the patient live more independently. The physical therapy assistant records observations of the patient's behavior. Approximate starting salary: $9,000

Educational pattern: associate degree program

Prerequisite: high school diploma

Length of program: two years

Program of study: the techniques of physical therapy: liberal arts and sciences: clinical experience

Upon completion: award of Associate in Applied Science degree (A.A.S.)

Schools: Nassau Community College
Stewart Avenue
Garden City, New York 11530
(516) 742-0600

Additional information: American Physical Therapy Association
1156-15th Street N.W.
Washington, D.C. 20005

The physical therapy aide, who performs routine tasks related to the operation of a physical therapy service, is trained on-the-job.

A proficiency test for physical therapy assistants has been developed by the Professional Examination Service under contract with the Division of Allied Health for the use of State licensing boards. New York State does not now license physical therapy assistants.

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Radiation Therapy Technologist (license required)

Job description: The radiation therapy technologist assists the radiologist in the treatment of disease by exposing affected areas of the patient's body to prescribed doses of x-ray or other forms of ionizing radiation. This involves operating complex radiologic equipment with precision. The technologist assists in maintaining proper operation of controlling devices and equipment used in treatment, and shares responsibility for treatment records. Approximate starting salary: $12,000

Educational pattern: hospital program

Prerequisites:
1. high school diploma
2. the student must be a radiologic technologist or registered nurse with a course in radiation physics for some A.M.A. programs

Length of program: two years

Program of study: the techniques of application of radiation to the patient in accordance with a treatment plan; clinical experience

Upon completion:
1. award of certificate or diploma
2. eligible for New York State licensure examination

Schools:
Memorial Hospital for Cancer and Allied Diseases
444 East 68th Street
New York, New York 10021
TR-9-3000

Kings County Hospital
451 Clarkson Avenue
Brooklyn, New York 11203
630-3131

Requirements for licensure:
1. two-year program
2. licensure examination

Additional information:
Bureau of Radiologic Technology
State Health Department
84 Holland Avenue
Albany, New York 11208

The American Society of Radiologic Technologists
500 North Michigan Avenue - Room 836
Chicago, Illinois 60611

January, 1974

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Radiologic Technologist (registration recommended and license required)

Job description: The radiologic technologist administers x-rays to patients to obtain x-ray films for diagnosis or for x-ray treatment upon the order of a physician. In radiological treatment he/she may apply cobalt or other radio-active materials. In taking x-ray films for diagnosis, the radiologic technologist determines exposure required, prepares technique charts, and processes the film. Experienced radiologic technologists may serve in supervisory, administrative, or teaching assignments. Approximate starting salary: $10,000-11,000

Educational patterns:
1. associate degree program
2. hospital program
3. baccalaureate degree program

Prerequisites:
1. high school diploma
2. entrance examinations

Length of program:
1. associate degree program - two years
2. hospital program - two years
3. baccalaureate degree program - four years

Program of study: the theory of x-ray generation and use, patient positioning, film processing; clinical experience; liberal arts and sciences in degree programs

Upon completion:
1. award of Associate in Applied Science degree (A.A.S.) or certificate or Bachelor of Science degree (B.S.)
2. eligible for certification by the American Registry of Radiologic Technologists
3. eligible for licensure examination

Schools: Hospital programs

Long Island College Hospital
340 Henry Street
Brooklyn, New York 11201
780-1611

Methodist Hospital
6th Street and 7th Avenue
Brooklyn, New York 11215
780-3128

Kings County Hospital
451 Clarkson Avenue
Brooklyn, New York 11203

United States Public Health Service Hospital
Bay Street and Vanderbilt Avenue
Staten Island, New York 10304
447-3010

Memorial Hospital for Cancer and Allied Diseases
444 East 68th Street
New York, New York 10021
879-3000

A.A.S. program

New York City Community College
300 Jay Street
Brooklyn, New York 11201
643-8590

B.S. program

C.W. Post Center
Greenvale, New York 11548
(516) 299-2244

Requirements for registration:

1. two-year program
2. American citizenship or legal declaration
3. registration examination

Requirements for licensure:

1. two-year program
2. licensure examination or American Registry of Radiologic Technologists certification

Additional information:

The American Society of Radiologic Technologists
500 North Michigan Avenue - Room 836
Chicago, Illinois 60611

American Registry of Radiologic Technologists
2600 Wayzata Boulevard
Minneapolis, Minnesota 55405

Bureau of Radiologic Technology
State Department of Health
84 Holland Avenue
Albany, New York 12208

Downstate Medical Center offers a Bachelor of Science degree program to licensed and/or registered radiologic technologists. It is an upper level program that requires 60 undergraduate credits in addition to radiologic technologist status. Of the tracks available - administrative, educational and clinical - the clinical track is of particular interest because the student receives training as a radiologic assistant, i.e. physician's assistant in radiology.

Downstate Medical Center
450 Clarkson Avenue
Brooklyn, New York 11203
270-1000

The Department of Labor is engaged in contractual arrangements related to proficiency examinations for radiologic technology personnel.

Should the radiologic technologist choose to, he or she may go into nuclear medicine or radiation therapy with additional training.

January, 1974

LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Respiratory Therapist

Job description: The respiratory therapist, in carrying out the physician's prescription, sets up, operates, and maintains various types of equipment such as respirators, oxygen tents, resuscitators, and incubators, in order to assist breathing; administer oxygen, aerosolized solutions, and medication; and provide proper humidification for the patient. The therapist may have supervisory responsibility over technicians and assistants. Approximate starting salary: $9,500

Educational patterns:
1. associate degree program
2. baccalaureate degree program
3. hospital program

Prerequisites:
1. high school diploma
2. high school science courses recommended
3. for baccalaureate degree - entrance examination
4. for hospital program
   a. Lenox Hill Hospital - an associate or baccalaureate degree
   b. Bellevue Hospital Center
      Division I - high school diploma and up to 62 college credits
      Division II - 62 or more college credits or registered nurse status

Length of program:
1. associate degree program - 2 years
2. baccalaureate degree program - 4 years
3. hospital program
   a. Lenox Hill - 1 year
   b. Bellevue Division I - 2 years
      Bellevue Division II - 1 year

Program of study: the techniques essential to the restoration and maintenance of respiration; liberal arts and sciences

Upon completion:
1. award of Associate in Applied Science degree (A.A.S.) or Bachelor of Science degree (B.S.) or certificate
2. eligible for registration by the American Registry of Respiratory Therapists

Schools: A.A.S. programs

New York University Medical Center
560 First Avenue
New York, New York 10003
679-3200
(also Continuing Education)

Borough of Manhattan Community College
1633 Broadway
New York, New York 10020
262-5460

Nassau Community College
Stewart Avenue
Garden City, New York 11530
(516) 742-0600

B.S. programs

State University of New York at Stony Brook
Health Sciences Center
Stony Brook, New York 11790
(516) 444-2105
(Program in Cardiopulmonary Technology/Respiratory Therapy)

Long Island University - Brooklyn Center
385 Flatbush Avenue Extension
Brooklyn, New York 11201
834-6000

Hospital programs

Lenox Hill Hospital
77th Street and Park Avenue
New York, New York 10021
794-4171

Bellevue Hospital Center
First Avenue and 27th Street
New York, New York 10016
561-5991

Requirements for registration:

1. 2-year A.M.A. approved program
2. 1 year of supervised clinical experience
3. registration examination

Additional information:

National Board of Respiratory Therapy
1900 West 47th Street Suite 124
Westwood, Kansas 66205

American Association for Respiratory Therapy
7411 Hines Place
Dallas, Texas 75235

A proficiency examination for respiratory therapy personnel is administered solely for government purposes, e.g. relative to Medicare eligibility:

Division of Associated Health Professions
Bureau of Health Resources Development
7550 Wisconsin Avenue, Rm. 408
Bethesda, Maryland 20014

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LUTHERAN MEDICAL CENTER
Health Career Data Sheet

Occupation: Speech Pathologist and Audiologist

Job description: The speech pathologist and audiologist provides clinical services for children and adults with disorders of speech, hearing, and language. Practicing largely in school and hospital settings, speech pathologists and audiologists work with teachers, psychologists, dentists, otologists, and other health specialists to evaluate and correct these disorders. Often specialized equipment is used. The range of disabilities includes stuttering, loss of speech due to strokes or accidents, congenital defects such as cleft palates, as well as various forms of hearing loss. Approximate starting salary: $11,000-12,000

Educational pattern: master's degree program

Prerequisite: baccalaureate degree in speech pathology and audiology

Length of program: one year

Program of study: liberal arts and sciences: anatomy and physiology, psychology, acoustics, phonetics, speech and hearing disorders, rehabilitation; clinical experience

Upon completion:
1. award of Master of Arts degree
2. eligible for certification by the American Speech and Hearing Association

Schools:

Columbia University
Department of Speech Pathology and Audiology
525 West 120th Street
New York, New York 10027
678-3000
(M.S., Ed.D.)

Brooklyn College
Bedford Avenue and Avenue H
Brooklyn, New York 11210
780-5147
(B.A., M.A.)

Hunter College
Institute of Health Sciences
105 East 106th Street
New York, New York 10029
360-2415
(B.A., M.A.)

Pace University
Pace Plaza
New York, New York 10038
285-3000
(B.A.)

New York University
School of Education
80 Washington Square
New York, New York 10003
598-3772
(B.A., M.A., Ed.D.)

University Graduate Division
Graduate Program in Speech and Hearing Sciences
33 West 42nd Street
New York, New York 10036
790-4366
(Ph.D.)

Requirements for certification:

1. 60 semester hours (including 30 graduate) of appropriate course work
2. 9 months full-time clinical experience
3. certification examination

Additional information:

American Speech and Hearing Association
9030 Old Georgetown Road
Washington, D.C. 20014

Certification is required in certain settings.

Positions in the field, on an other than professional level, include communication aide and audiometrist.

OCCUPATION	PROGRAM	CONTACT PERSON
Occupational Therapy Assistant	LaGuardia Community College	Naomi Greenberg
Physical Therapist	Hunter College	Robert Ayers
	Columbia University	Mary E. Callahan
	New York University	Arthur J. Nelson
	Downstate Medical Center	Robert Bartlett
	Long Island University - Brooklyn Center	John Gray
Physical Therapy Assistant	Nassau Community College	Laura Gilkes
Radiation Therapy Technologist	Memorial Hospital for Cancer and Allied Diseases	Diane Waithe
Radiologic Technologist	Long Island College Hospital	Vito Podera
	Methodist Hospital	Stewart Fause
	Kings County Hospital	Mingo Dicks
	U.S. Public Health Service Hospital	John Burns
	Memorial Hospital for Cancer and Allied Diseases	Franklin Martin
	New York City Community College	Helen Wiig
	C.W. Post Center	Nathan L. Lewis
	Downstate Medical Center	Arthur James Yagy
Respiratory Therapist	New York University Medical Center	T. Steffee
	Borough of Manhattan Community College	Marjory Abbott
	Nassau Community College	Joseph J. Klocek
	State University at Stony Brook	E. Anderson
	Long Island University - Brooklyn Center	Milorad Stricevic
	Lenox Hill Hospital	Steven Grenard
	Bellevue Hospital Center	Johannes Bartels
Speech Pathologist and Audiologist	Columbia University	Edwart D. Mysak
	Brooklyn College	James Lang
	Hunter College	Doris Leberfield
	Pace University	Joseph J. Miranne
	New York University	John P. Burke

Contact Persons for Educational Programs as of November, 1974 (continuation)

OCCUPATION	PROGRAM	CONTACT PERSON
Blood Bank Technologist	hospital laboratories	department heads
Dental Hygienist	New York City Community College	Lilian Warren
	Columbia University	Patricia A. McLean
Dietetic Technician	New York City Community College	Felice Chiapperini
Dietitian	Hunter College	Rose M. Miranda
	New York University	Margaret D. Simko
	Brooklyn College	Hazel M. Kory
	Downstate Medical Center	Annette Natow
	Pratt Institute	Ina Martin Stewart
Hematology Technologist	hospital laboratories	department heads
Medical Diagnostic Sonographer	Downstate Medical Center	Arthur James Pagy
Medical Laboratory Technician	New York City Community College	Mildred Tolkoff
	Staten Island Community College	Philip Schain
Medical Record Administrator	Hunter College	Robert Zappacosta
	Downstate Medical Center	Dwight Dixon
Medical Record Technician	Borough of Manhattan Community College	Steven Henkin
Medical Technologist	Hunter College	Irwin Greskes
	Downstate Medical Center	Anthony Micastri
	Richmond College	E. Cuinn
	Pace University	Dolores E. Keller
	Long Island University - Brooklyn Center	Denis Curley
	Wagner College	Edythe Kershaw
Nuclear Medicine Technologist	Overlook Hospital	Carmen Stimac
	Kennedy Medical Center	Richard Pollack
Occupational Therapist	Columbia University	Marie Louise Franciscus
	New York University	Anne Cronin Mosey
	Downstate Medical Center	Robert Bartlett
	York College	Wimberly Edwards

APPENDIX B

Health Survey Course Description

Health Survey Course Description

Unit 1: Dynamics of Health and Disease

Outline

I. Health

II. Nutrition

III. Disease

Lecture Outline Guide

Unit 2: Health and the Human Body

Outline

Lecture Outline Guide

Unit 3: Dynamics of Health Care

Outline

I. Organization of Health

II. Comprehensive Health Care

III. Health Careers/Health Services Personnel

IV. Medical Ethics and Law

V. Human Relations and the Health Professional

Lecture Outline Guide

Note: Some supplementary materials for this course are available at Lutheran Medical Center.

Unit 1

Outline: Dynamics of Health and Disease .

I. Health

Definition

Determinants of Health

Heredity

Environment

Behaviour

Culture

Poverty

Nutrition

Tasks of Healthful Living

BEHAVIOURAL OBJECTIVES

1. The student should be able to define in his own words "health."

2. The student should be able to discuss with examples the determinants of health.

3. The student should be able to identify health behaviour that contributes to optimum health.

DISCUSSION TOPICS/CLASSROOM ACTIVITIES

1. "Cigarette smoking is hazardous to your health." "High fat diets contribute to heart disease." "A routine physical examination is important in the early detection of disease." "Seat belts in automobiles reduce the incidence of fatal

accidents.". Whey is there a discrepancy between personal health behaviour and known, proven health knowledge?

2. Have students identify what they consider to be the number one health problem and list contributing factors and possible solutions.

3. Have students identify attitudes about health which serve to interfere with the achievement of optimum health. Can you change these attitudes? If so how would you go about it?

SUPPLEMENTARY MATERIALS

TEXTS

Carter, Marshall - The Dynamics of Health Disease

Hein, Fred U. - Living

II. Nutrition

Definition

Nutrients and their Functions

Carbohydrates

Fats

Proteins

Vitamins

Minerals

The Basic Four

Malnutrition and Hunger

Food Fads, Fallacies, Misconceptions

BEHAVIOURAL OBJECTIVES

1. The student should be able to identify the nutrients and explain how they function in the body.

2. The student should be able to differentiate between -
fat soluble and water soluble vitamins
saturated and unsaturated fat

3. The student should be able to discuss the relationship of the nutrients to the Basic Four.

4. The student should be able to analyze a diet using the Basic Four as a guideline.

3. The student should be able to define

   calorie

   metabolism

   nutrient

DISCUSSION TOPICS/CLASSROOM ACTIVITIES

1. Have each student record his diet for 2 days. Analyze and evaluate in relation to nutritional needs and the Basic 4.

2. Have the hospital nutritionist/dietician meet with the class to discuss patient problems in relation to nutrition.

3. Have each student read, review, and report on a current article on nutrition - nutritional needs, hunger, malnutrition.

4. Have students report on the Food & Drug Administration, Dept. of Agriculture, etc.

1. Food is More Than Just Something to Eat (Prepared by U.S. Department of Agriculature & H,E,W.)

2. Choose Your Calories By the Company They Keep (National Dairy Council).

TEXTS

Hein, Fred , Living

Jones, Shainber, et al., Foods, Diet & Nutrition

Marshall, Carter, The Dynamics of Health & Disease

FILMS

Food For Life (National Dairy Council)

What's Good to Eat (National Dairy Council)

MISCELLANEOUS

Current materials and erferences on Hunger in the World -

1. TV coverage (Channel 13)
2. TV - CBS Special
3. World Health Organization

III. Disease

Infectious Diseases

Pathogens

Transmission of Infectious Diseases

Common Infectious Diseases

Chronic Diseases

Leading causes of death in U.S.

Contributing factors

Common Chronic Diseases

BEHAVIOURAL OBJECTIVES

1. The student should be able to define-

pathogen	vehicle
chancre	vector
infection	asepsis

2. The student should be able to distinguish between-
   a) benign and malignant neoplasms
   b) direct and indirect contact
   c) acute and chronic
   d) infection and inflammation
   e) infectious versus chronic disease

3. The student should be able to explain the principles underlying asepsis and their application in the delivery of health care.

4. The student should be able to identify the causative factors of the common infectious diseases and chronic diseases.

DISCUSSION TOPICS/CLASSROOM ACTIVITIES

1. Have each student choose a disease for study and report to the class - include causative agent, transmission of the disease, signs/symptoms of illness, diagnosis, treatment and other related information.

2. Have students visit the hospital in small groups and list activities observed which illustrate the principles of asepsis

3. Have students view a TV program dealing with a medical problem and discuss in class the next day.

4. Have students view TV program- "Feeling Good" - Channel 13 and discuss the key health factors introduced during the program in relation to disease.

SUPPLEMENTARY MATERIALS

FILMS

1. Venereal Disease - ½ Million Teenagers
2. Better Odds For A Longer Life

TEXTS/REFERENCES

Marshall, Carter - Dynamics of Health & Disease

Hein, Fred U., Living

Jones, Shainberg, Byer, Communicable & Non-Communicable Diseases

LECTURE OUTLINE GUIDE

DYNAMICS OF HEALTH AND DISEASE

I. Health

A. Definition - represents optimum functioning with the individual and by the individual in his environment. Health is concerned with the physical, mental, social-economic, and environmental and cultural aspects of living. Health is dynamic.

B. Determinants of Health

1. Heredity - the health of every individual is to some extent determined during the developmental processes before birth. The gene is considered the basic unit of heredity as it determines the characteristics of each individual. Certain genetic patterns can play an important predisposing factor in the inheritance of certain diseases i.e. sickle cell disease, diabetes, hemophilia.

2. Environment - includes all the nonhereditary forces affecting one's growth and development from conception to death. Environment plays an important role in determining the realization of optimum health for the individual. Examples of environmental factors which play an important role are drugs, infectious diseases, pollutants, nutrition, etc.

3. Behaviour - based on Knowledge and Attitudes Health practices may play an important role in establishing and maintaining optimum health. The earlier good health practices are established the greater the likelihood that they will contribute to longevity. Health behaviour is based to some extent on our knowledge and understanding of certain scientific principles and the development of certain attitudes which contribute to health or serve as obstacles to obtaining optimum health. An example - "Smoking is hazardous to your health."

4. Culture - the cultural environment has a tremendous influence on the individual's health status. Family, community, education, economic status, health care received, religion, interactions during childhood with parents, siblings and cultural beliefs and traditions all contribute to the development of the individual and his health.

5. Poverty - defined as a set of circumstances which prevent employment at a wage sufficient to provide the necessities of life within the context of a particular economy and a life style subject to resources so limited that human hopes and aspirations are destroyed. Poverty is a state that involves a person's total life - his food, clothing, housing, education,

health, job opportunities, family life, and aspirations. (Carter Marshall, The Dynamics of Health & Disease, Chapter 2).

6. Nutrition - (see unit on Nutrition)

C. Tasks of Healthful Living (Hein, Fred V. Living, Chapter 1).

1. Prevention of disease and injury
2. Maintenance of "normal" levels of functioning.
3. Restoration to "normal" when problems occur.
4. Rehabilitation, when restoration is not possible.
5. Improvement of functioning within one's capacity to do so.

II. Nutrition

A. Definition

1. Nutrition - gaining nourishment from food - includes digestion, assimilation and metabolism.

2. Nutrient - any substance (food) used by the body for sustaining life.

B. Nutrients and Their Functions

Carbohydrates (Sugar and Starches)

1. Excellent source of energy

2. Sources - rice, potatoes, corn, breads, and sugar

Fats (Fatty acids - saturated/unsaturated fat)

1. Good source of energy (2nd to carbohydrates)

2. Sources - meat, butter, whole milk, and egg yolk

Proteins (amino acids)

1. Essential for growth and repair of body tissue.

2. Sources - fish, meat, milk, and eggs

Minerals (salts - Ex, Calcium (Ca), Iron (Fe), Iodine (I), Phosphorus (P).)

1. Regulates (with the assistance of vitamins all bodily processes - i.e. respiration, circulation, digestion, etc.

2. Sources - milk, fish, meat - rest foods

Vitamins (Fat Soluble/Water Soluble)

1. A,D,E,K = Fat Soluble
2. B,C = Water Soluble
3. Regulates all bodily processes
4. Sources - Vitamin A - dark green/yellow vegetables
   Vitamin B - whole grain prods.
   Vitamin C - citrus fruits, baked potato, cabbage
   Vitamin D - added to milk (in some urban areas), fish liver oils, liver.

C. The Basic Four Food Groups (see chart - National Dairy Council)

D. Malnutrition and Hunger

Despite the availability of scientific information on nutritional needs, adequate food production not everyone in the U.S. is getting enough to eat. A large number of Americans are malnourished. In addition hunger and malnutrition is seen as an acute health problem throughout the world. The need for a world-wide conference on hunger became a reality in 1974. (See New York Times coverage and other journals and articles devoted to the conference). Why are people in the U.S. and other countries hungry and malnourished. This and other questions related to nutri-

tion were addressed at the conference. Some of the causes noted are-

1) inadequate knowledge and understanding of what comprises a well-balanced diet and how to prepare it.
2) poor dietary habits
3) poverty
4) population explosion

Malnutrition has serious implications in terms of the overall well being of the individual/society and the individual's ability to live a productive life. Malnutrition may manifest itself in the following ways-

1) growth retardation
2) anemia
3) electrolyte imbalance - low levels of protein, Vit.A, Vit.C.
4) vitamin deficiency diseases such as rickets, scurvy, pellagra.

E. Food Fads, Fallacies, Misconceptions (see attachment)

III. Disease

A. Definition - incorrect functioning/malfunctioning of an organ, part, structure, or system of the body.

B. Infectious Diseases

1. Pathogens - are micro-organisms capable of producing disease - "germs." Classified into groups specific examples are -

a. Viruses - smallest of pathogens; causes - polio, colds, influenza

b. Bacteria - single-celled plants; cause- venereal diseases, tuberculosis

c. Fungi - primitive plants; cause-athlete's foot

d. Protozoa - microscopic animals; cause - malaria

e. Rickettsia - very small bacteria; cause typhus fever

f. Parasitic worms - flatworms, roundworms

2. Transmission of Infection

a. Vehicles and Vectors

Infectous diseases can spread to individuals via vehicles i.e. water, food, mild or vectors i.e. arthropods (insects - mosquitoes, fleas, lice, ticks) An infectious disease spread by a vehicle (contaminated water) is Typhoid Fever. An infectious disease spread by a vector (mosquito) is Malaria.

b. Person-to-Person

1. Direct contact - physical contact between an infected and noninfected individual - touching, kissing or other close contact.

2. Indirect contact - physical contact with a contaminated object or contaminated food or water-
3. Airborne Spread - contact occurs as a result of the pathogens being released into the air during coughing, talking, and sneezing.

3. Infection Control

a. Asepsis - refers to the absence of disease - producing micro-organisms (pathogens)

b. Principles underlying Asepsis

1. Certain micro-organisms are capable of causing illness in man
2. Micro-organisms harmful to man can be transmitted by means of his direct or indirect contact with them.
3. Illness caused by micro-organisms can be prevented when there is an interruption of the infectious process cycle.

c. Examples - which illustrate the practice of asepsis

1. Handwashing - contaminated hands are considered by many authorities to be the prime factor in cross infections. The health professional is constantly using his/her hands in the delivery of health care - examining a patient, folding linen, giving an injection, making a bed, etc. In controlling the spread of infection it is essential that the health professional wash hands constantly - before and after contact a patient or handling equipment used in his care.
2. Use of Paper Towels - where a large number of persons

share common wash facilities; paper drinking cups instead of a common drinking glass; wrapped paper straws.

3. Sterilized pillows and mattresses - pillows and mattresses must be sterilized before they are sold and a label attached indicating same.

4. Washing hands before handling food, Washing fruits and vegetables before eating, washing hands before meals and after using toilet facilities.

5. Soiled/Contaminated Equipment - avoid soiled linen and other articles from coming in contact with uniform. Uniform and other linen (soiled or clean) should not touch the floow. The floor is considered a grossly contaminated area.

6. Cleaning - use a damp cloth in cleaning and clean away from yourself. This helps to prevent particles from settling on the hair, face, and uniform. Avoid sharing linen when making or stripping the bed. Clean the least soiled areas first and then the more soiled ones.

7. Sterilization - sterilize contaminated articles.
   Before sterilization wash article. Use sterile gloves or forceps when indicated. All items which come in contact with broken skin or items which will be used to penetrate the skin surface should be sterile.
   Examples - dressings, syringes and needles for injection, tubs/catheters.
   Never cross a sterile field. Hold sterile objects above the level of the waist.

8. Keep soiled/contaminated articles and equipment away from clean articles and equipment.

9. Rinse contaminated articles in cold water first before washing with warm water and soap. (Rationale - body fluids/discharges are protein in nature. Protein coagulates in the presence of heat thereby making it more difficult to cleanse the object).

4. Common Infectious Diseases*

a. Tuberculosis - cause - Tubercle Bacillus

b. Venereal Diseases -

   1. Syphilis - Spirochete

   2. Gonorrhea - Gonococcus

c. Hepatitis - cause - virus

d. Influenza - cause - viruses

e. Common Cold - causes - viruses

*(If time permits develop the lecture on Infectious Diseases by discussing in depth one of the diseases noted above - i.e. Causative agent, symptoms, diagnosis, and treatment).

Chronic Diseases

1. Leading Causes of Death

1900	1970
1. Tuberculosis	1. Heart Disease
2. Pneumonia	2. Cancer
3. Intestinal infections	3. Accidents
4. Heart diseases	4. Pneumonia and influenza
5. Diseases of infancy	5. Diabetes

2. Contributing Factors
   a. Heredity
   b. Diet
   c. Stress
   d. Environment
   e. Degenerative Processes
   f. Infection
   g. Physiological Imbalance - i.e. hormonal

3. Common Chronic Diseases*
   a. Heart Diseases - Coronary Thrombosis
   b. Malignant Neoplasm - Cancer
   c. Arthritis
   d. Diabetes

* (If time permits develop the lecture on Chronic Diseases by discussing in depth one of the diseases noted above - i.e. Causative agent, symptoms diagnosis, and treatment. In view of the recent public interest would suggest Cancer or Heart Disease).

See Channel 13 Series on the Killers.

Unit 2

Outline: Health and the Human Body

I. Health and the Human Body

Overview/Orientation to the Human Body

Introduction

The Cell

Tissues

Organs

Systems

The Systems - structure and function

Skeletal System

Muscular System

Circulatory System

Respiratory System

Digestive System

Excretory System

Endocrine System

Nervous System

Reproductive System

Integamentary System

Normal Bodily Defenses

Interrelationships of the Body and Mind

The Language of Health and Disease

BEHAVIOURAL OBJECTIVES

1. The student should be able to identify

a. A cell and its characteristic

A tissue - types and functions

An organ - function and location

b. The systems of the human body and give the function of each

2. The student should be able to explain the concept of immunity

3. The student should be able to explain

a. How the kidneys function to remove waste

b. How the activities of the endocrine system control other body systems

c. How the skeletal and muscular system work together to accomplishment movement

d. How food is digested and utilized by the body

e. How the heart and the circulatory system services the body

4. The student should demonstrate in writing an knowledge of the prefixes and suffixes common to medical terms.

DISCUSSION TOPICS/CLASSROOM ACTIVITIES

1) Use of audio/visual materials -

a) mannikin of the human body to demonstrate the various organs as they are discussed in class

b) charts of a cell and the different types of tissues

2) Discussion Questions

a) What are the characteristics of muscle tissue?

b) Which muscles are involved in the process of breathing

c) What are the three major functions of the skeleton

d) What are the organs of the human digestive system

e) What keeps the food moving through the digestive tract

f) What immunizations are commonly recommended for young children in the U.S.

g) What is the difference between an exocrine gland and an exocrine gland

SUPPLEMENTARY MATERIALS

FILMS - on the Human Body
Take Joy

TEXTS

Anthony, Catharine - Structure and Function of the Body

Jones, Shainberg et al The Human Body

Lecture Guide Outline
Health and the Human Body

I. Health and the Human Body

A. Overview/Orientation to the Human Body

1. Introduction-Understanding of the human body is the foundation to any understanding of health. The function of this unit will be to examine and survey the human organism system by system from its major organs down to its cells which are considered to be the building blocks of the human anatomy and back up to an overview of the human organism stressing the interrelatedness of the systems and the interrelatedness of the mind and body.

2. Human anatomy and physiology

a. The cell-Each individual human structure is made up of many parts-cells, tissues and organs that are interdependent upon one another in order to survive. These cells, tissues and organs work together as a whole to accomplish the miracle of the whole, the miracle of the human body, the miracle of life.

<u>Characteristics of the cell</u>

a. basic unit of all living things.

b. approximate number within the human body-100 million cells.

c. requirements of the cells-nutrients, oxygen and elimination

d. size of cell-microscopic

e. shape-varies with the type of cell

f. structure-nucleus, cytoplasm and cell membrane.

g. functions-special functions dependent on the type of cell, i.e. contraction by muscle cells, support by bone cells, transmission of messages by nerve cells, etc.

b. Tissues-the body performs many different functions and as a result there are many different types of tissues to carry out these specialized functions.

Characteristics of tissues

a. Structure-tissues are considered to be groups of cells with a specialized function.

b. Types-epithelial, connective, muscle, nervous.

c. Function-

1. protection, absorption and secretion
2. connection, support
3. movement
4. communication and control

c. Organs-are considered to be groups of specialized tissues with a specific function. The organs work together as a system to carry out a major bodily activity, i.e. respiration, digestion, circulation, etc. Organs are generally housed within cavities.

1. cranial
2. thoracic
3. abdominal
4. pelvic

The brain a major organ in the body is located in the cranial cavity in contrast to the kidneys which are located at the back of the abdominal cavity.

4. Systems-the human body is quite complex however its structure and function are all centered around a system. In order to understand how the body works one must understand the major 10 systems of the body. Each system has a definite pattern of behavior and interact with the other systems to accomplish the physiological activities of life. Each system will be reviewed independently noting the organs and their location within the system, the function of the systems and how they work with one another. (See Chart identifying the body systems and organs comparing them-Anatomy, Structure and Function of the Body).

1. Skeletal System
2. Muscular System
3. Circulatory System
4. Respiratory System
5. Digestive System
6. Excretory
7. Endocrine
8. Nervous
9. Reproductive
10. Integumentary

B. Normal bodily defenses-in order to protect itself against potential dangerous elements in the environment the human body has built-in defense systems.

1. Skin-is noted as a system and is considered to be the body's first line of defense.

2. Antibodies-are considered the second line of defense against infection. Basic to this protection is the process referred to as the antigen-antibody response. Antibodies are protein substances formed in response to the presence of antigens or foreign substances. Antibodies can neutralize and destroy bacteria in a variety of ways-i.e. interference with the physiology of the bacteria or working with the white blood cells to invade the bacteria. Once the body has been invaded by a specific bacteria the antigen-antibody response will take over and the body will begin to develop an immunity to that specific bacteria. Antibodies are disease-specific. Whenever the same bacteria is re-introduced to the body the antibodies will immediately respond to protect the individual against that specific organism.

   a. Immunity-resistance to a specific disease.
      1. Active immunity-the body builds up its own antibodies against the specific antigen.
      2. Passive immunity-the antibodies are artificially introduced into the body.

C. Interrelationship of the Body and Mind

The concept of the interrelatedness of the mind and the body as opposed to the concept of two distinct components has played an important role in the promotion of health and the health care system. "Mind" it "body" are terms used to differentiate between where stress reactions occur. How the body responds to stress is dependent upon a number of factors. Both physical and mental stress can create

organic changes within the body. Physical stress can influence the emotional component and emotional stress/ conflict can bring about physiological changes.

D. The Language of Health and Disease

Most of the terms used in discussing and writing health observations and medical case histories are derived from Greek or Latin. Many of the health and medical materials (texts, journals) which the health professional must read and review will be written in technical terms- medical terminology. A knowledge and understanding of the prefixes and suffixes utilized in forming medical terms will be helpful in determining the meaning of the words. (see attachment)

1. Prefix-a dash following the root identifies it as a prefix. Example: cardi-=heart
2. Suffix-a dash preceding the root identifies it as a suffix. Example: itis = inflammation of.
3. Stem-a dash before and after the root indicates that it usually falls in the middle of the word.

Unit 3

Outline: Dynamics of Health Care

I. Organization of Health Care

Definition

Health Care Agencies

Involuntary

Voluntary

Organization Structure of Hospitals

Classification

Tax supported hospitals

Proprietary hospitals

Voluntary hospitals

BEHAVIOURAL OBJECTIVES

1. The student should be able to define health care system.

2. The student should be able to define and distinguish between an official and voluntary agency.

3. The student should be able to give example of both types of agencies.

4. The student should be able to identify the essential elements of an organized health care delivery system/program.

5. The student should be able to identify and classify the various health care agencies on the local, state and federal levels.

6. The student should be able to identify and describe the organizational structure of a general hospital - i.e. major departments and divisions of a hospital.

7. The student should be able to list the major functions/operations of each division and department within the hospital.

DISCUSSION TOPICS/CLASSROOM ACTIVITIES

1. Have the class identify the various agencies within their own community which are directly or indirectly related to health.

2. Have the class classify each of the health care agencies identified in the community as regards the major classifications noted in the outline describe the functions of each.

3. Have the class carefully review and analyze the health care services provided by the agencies identified and list those services which are inadequately provided for within the community.

SUPPLEMENTARY MATERIALS

Films

The Hospital Story

The Hospital

Community Health in Action

Department of Health, Education and Welfare

References/Texts

French, Ruth M., The Dynamics of Health Care

Marshall, Carter L., Dynamics of Health & Disease

Osborn, Barbara, Foundation of Health Science

II. Comprehensive Health Care

Definition

Components

Promotion of Health

Prevention

Diagnosis/Treatment

Rehabilitation

BEHAVIOURAL OBJECTIVES

1. The student should be able to define

Health

Comprehensive Health Care

Primary Prevention

Secondary Prevention

Primary Care

Diagnostic

Therapeutic

Rehabilitation

2. The student should be able to discuss the role of the health professional in the delivery of comprehensive health care.

3. The student should be able to discuss the interrelatedness of the various components of comprehensive health care.

4. The student should be able to distinguish between health care and medical care.

DISCUSSION TOPICS/CLASSROOM ACTIVITIES

1. The present system of medicine stresses the therapeutic and rehabilitative approach to disease control. Should our health care system begin to focus on and stress more the promotion of health and prevention of disease rather than implementation of therapeutic measures? Why?

2. In recent years there has been a great deal of discussion and concern about the quality of health care in the U.S. Why in a country with an abundance of resources is adequate and quality health care lacking? What measures should be instituted to insure a high level of comprehensive health care?

3. What factors should be considered in setting up a comprehensive health care system in any community?

SUPPLEMENTARY MATERIALS

1. Kirsch, A.I. Planning for a sensible health care system
Nursing Outlook 20: 574-578, September, 1972

2. Richardoon, J.D. & Scutchfield, F.D.
Priorities in Health Care: The Consumer's Viewpoint
American Journal of Public Health, 63: 79-82, January, 1973

3. Terris, M. Crisis and change in America's Health System
American Journal of Public Health, 63: 313-318, April, 1973

4. Time Magazine 91: 54, February 23, 1968
The Plight of the U.S. Patient

References/Texts

French, Ruth M. Dynamics of Health Care

Marshall, Dynamics of Health & Disease

Osborn, Barbara Foundations of Health Science

III. Health Careers/Health Services Personnel

Background

Careers in Health

Health Care Settings

BEHAVIOURAL OBJECTIVES

1. The student should be able to define "health team."

2. The student should be able to identify the various members of the "health team."

3. The student should be able to discuss the implications of a health manpower shortage and a poorly functioning health team to the health care system.

4. The student should be able to identify the functions/responsibilities of the health care professional in various health care settings.

5. The student should be able to identify the role and functions of the following health service personnel.

   a. Nurse - R.N. & L.P.N.

   b. Respiratory Technician/Therapist

   c. Operating Room Technician

   d. Radiologic Technician

   e. Dental Assistant/Hygienist

   f. Medical Laboratory Technician

   g. Medical Doctor (M.D.)

      1. Internists

      2. Surgeons

      3. Gynecologists

      4. Obstetricians

      5. Pediatricians

      6. Dermatologist

6. The student should be able to define

anesthesiology	psychiatry
dermatology	radiology
hematology	roentgenology
neurology	optometry
ophthalmology	urology
otology	pediatrics

DISCUSSIONS TOPICS/CLASSROOM ACTIVITIES

Class Project - Field Experience

1. Class will be divided into small groups. Each group will select a health career of interest. Each group will be responsible for researching the health career selected - identifying 1) educational requirements, 2) experience requirements, if any, 3) available training programs, 4) functions of health service personnel, 5) salary scale, 6) career mobility.

2. Group visits a health facility to observe the specific health service personnel in action.

3. Group reports back to the class findings of research and field experience.

SUPPLEMENTARY MATERIALS

1. National Health Council - New York City
   200 Ways to Put Your Talent to Work in the Health Field

2. Health Careers Guidebook
   (U.S. Dept. of Labor & Dept. of H,E,W.)

3. Occupational Outlook Handbook

(U.S. Department Labor)

Film - Health - You and Your Helpers

Medical Ethics & Law

Law

Definition

Classification/Sources of Laws

Legal Rights/Responsibilities

Health Professional

Patient

Ethics

Terminology

BEHAVIOURAL OBJECTIVES

1. The student should be able to define

malpractice	fraud
negligence	conviction on a felony
liability	conviction of crime (moral turpitude)
battery	litigation
invasion of privacy	privileged communication
lawsuit	tort
	law

2. The student should be able to list the rights of the patient under the law.

3. The student should be able to discuss the grounds for losing a license to function as a health professional.

4. The student should be able to discuss the ethical code established for his profession.

DISCUSSION TOPICS/CLASSROOM ACTIVITIES

1. Have the students review the various ethical codes within the professions and compare the similarities and differences

2. Have the students review and analyze case studies involving a lawsuit filed by a patient against a health team member and/or hospital.

3. Plan for the students to observe a lawsuit in process.

4. Plan for the hospital legal advisor to make a presentation to the class.

SUPPLEMENTARY MATERIALS

1. Code of Ethics - from various professional organizations

2. French, Ruth M. - The Dynamics of Health Care (Chapter 9)

V. Human Relations and the Health Professional

Personality

Definition

Development

Patient Behaviour

Defense/Mental Mechanisms

Communication

Definition

Verbal & Non-Verbal

Barriers to Communication

Interpersonal Relationsjips

Health Professional-Patient Relationships

Health Professional-Health Professional Relationships

BEHAVIOURAL OBJECTIVES

1) The student should be able to define-

stress	neurosis
defense/mental mechanism	communication
psychosis	psychotherapeutic
mental health	psychosomatic
personality	

2) The student should be able to differentiate between

fear and anxiety

verbal and non-verbal communication

3) The student should be able to discuss the factors which influence personality development.

4) The student should be able to identify the factors which may influence a patient's behaviour.

DISCUSSION TOPICS/CLASSROOM ACTIVITIES

1. Have each student write a report on
   a. Definition of fear, anger and anxiety
   b. Describe events from their own experience where each of these emotions were felt fully giving their reactions/ behaviour.
2. Students will work in small groups
   a. Define 6 different defense mechanisms
   b. Give 2 examples from life experiences which illustrate the defense mechanisms
3. In class student's will discuss the following
   a. How does a person's cultural background affect his communication?
   b. Examples of non-verbal communication that you have observed
   c. How might health team members promote good communications among themselves?
   d. Is personality learned or is it inherited?
4. Have Students and teacher communicate with each other on

different levels and in various media. For example, pair up students and have them communicate different emotions verbally and nonverbally.

SUPPLEMENTARY MATERIALS

Hewitt, H. & Pesznecker, B. Blocks to Communication With Parents A.J. Nursing, 64:7; 101-3, July 1964.

Lederer, H.D. How the Sick View their World, J. Social Issues, 8:4-15, 1952

McQuade, W. What Stress Can Do to You Fortune, 85:102-107; 134; 136; 141, Jan., 1972.

Muecke, M.A. Overcoming the Language Barrier, Nursing Outlook, 18:53-54, April 1970.

References/Texts

Burton, Genevieve, Personal, Impersonal and Interpersonal Relations

Dennis, Lorraine B., Psychology of Human Behaviour for Nurses

Menninger, William B. Self-Understanding A First Step to Understanding Children

Purtilo, Ruth, The Allied Health Professional and the Patient

Stecher & Appel, Discovering Ourselves

Films - The Quiet One

LECTURE OUTLINE GUIDE

DYNAMICS OF HEALTH CARE

I. Organization of Health Services

A. Definition - the organization of health services refers to an orderly, cooperative effort within our social framework to coordinate health related activities. The purpose of organizing health services is to provide a vehicle for the delivery of quality health care to an individual or group of individuals. Dr. Carter Marshall in his book. Dynamics of Health & Disease identifies the following as essential elements in any organized health care delivery system/program-

1) There must be an administrative structure
2) There must be an adequate funding source or sources
3) There must be clearly identified benefits/objectives of the program
4) There must be clearly identified eligibility guidelines
5) There must be clearly identified, defined, and coordinated roles for each of the health team members
6) Quality of health care must be a primary concern
7) There must be a mechanism for establishing and governing the program

B. Health Care Agencies

1. Classification

a. Involuntary (Official/Governmental)

1. Department of Health, Education & Welfare
2. Department of Agriculture
3. United States Public Health Services
4. New York City Health & Hospital Corporation
5. World Health Organization
6. State Department of Health

b. Voluntary Health Care Agencies (Non-Official)

1. American Heart Association
2. American Cancer Society
3. March of Dimes
4. American Diabetes Association
5. Visiting Nurse Association
6. Epileptic Foundation

2. Organizational Structure of Hospitals (see organizational chart)

a. Classification of Hospitals

1. Tax-Supported Hospitals -

a. Federal Hospitals (V.A. Hospital, USPHS Hospital)

b. State Hospitals (Downstate Medical Center, Creedmoor State Hospital, Manhattan State)

c. City Hospitals (N.Y.C. Health & Hospital Corporation - Kings County Hospital, Bellevue, Harlem Hospital)

2. Proprietary Hospitals (owned by an individual or by stockholders)

3. Voluntary Hospitals - (non-profit

II. Comprehensive Health Care -

A. Definition - specifically refers to four (4) health care services/or activities - 1) the promotion of health, 2) the prevention of disease (preventive medicine), 3) the detection and treatment of disease (diagnostic and therapeutic medicine), and 4) rehabilitation. Although each one of these activities have specific objectives all four are interrelated. It is difficult to clearly define where one activity ends and another begins. For example good health habits/practices which promote health will in many instances prevent disease - i.e. eating a well balanced diet will prevent the development of nutritional vitamin deficiences; good dental hygiene and periodic dental check-ups will reduce the likelihood of dental caries and/or other dental disease/problems.

B. Promotion of Health

1. Acquisition of health knowledge

2. Development of wholesome attitudes toward health which would advance and encourage the individual to adopt health behaviour conducive to the full development of his physical/mental, health and social well being.

3. Implementation of health practices on an ongoing basis which would establish and maintain an optimum level of health.

C. Prevention of Disease

1. Primary Prevention - refers to the manipulation of the environment to prevent contact between man and the agent/causative factor of the disease - i.e. environmental sanitation

2. Secondary Prevention - refers to the manipulation of man to render contact with a disease agent/causative factor harmless - i.e. Immunization, health education, adoption of sound health practices.

D. Detection and Treatment of Disease

1. Diagnostic services - an essential component of health care services are those activities which assist the specialist in determining the nature and extent of the disease process. Traditionally the allied health professional plays a significant role in carrying out responsibilities in this area - i.e. health appraisal - clinical tests, x-ray procedures, vision/hearing tests, etc.

2. Therapeutic - once the disease entity has been diagnosed the next phase of health care service begins - The physician/medical specialist determines the best treatment for the patient and therapeutic measures are then introduced. The allied health personnel works as part of the health team in administering the various therapeutic measures - i.e. radiation, chemotherapy, physical therapy, and respiratory therapy

E. Rehabilitation - has as it prime objective the eventual total independence and responsibility for his own health on the part of the individual. The concept of rehabilitation is an integral part of comprehensive health care and is emphasized at every stage of the patient's recovery.

III. Health Services Personnel

A. Background - the Health Careers Guidebook (publish jointly by the U.S. Department of Labor and the Department of Health, Education and Welfare) and the Occupational Outlook Handbook (published by the Department of Labor) has identified more than 200 careers related to health. These careers are all vital to the proper functioning of the health team and the delivery of quality, comprehensive health care. These careers cover a wide variety of academic/theoretical disciplines and skills. The health care delivery system is the third largest industry in the nation today. As strides continue to be made in medical technology there continues to be a marked increase in the number of health careers and an increasing need for well-prepared individuals to function in those careers.

B. Careers in Health (see classification of Nation Health Council)

1. Administrative, Business and Clerical Specialties
   a. Hospital Administrator
   b. Medical Assistant
2. Clinical Laboratory and Related Technical Services
   a. Blood Bank Technologist
   b. Cytotechnologist

c. Electrocardiograph (EKG)

Electroencephalograph (EEG)

d. Respiratory Therapist

e. Medical Technologist

f. Radiologic Technologist

3. Dental Services

a. Dental Assistant

b. Dental Hygienist

c. Dental Lab Technician

d. Dentist

4. Dietetics and Nutrition

a. Dietician, Dietetic Technician, Dietetic Assistant

b. Hospital Food Administrator

c. Nutritionist

5. Mental Health

a. Psychologist

b. Psychiatrist

6. Nursing Services

a. Registered Nurse

b. Nurse - Midwife

c. Licensed Practical Nurse

7. Occupational Therapy

a. Occupational Therapist

b. Occupational Therapy Assistant

8. Pharmacy - Pharmacist

9. Physical Therapy

a. Physical Therapist

b. Physical Therapy Assistant

10. Rehabilitation
    a. Corrective Therapist
    b. Music Therapist
11. Social Services
    a. Medical Social Worker
    b. Psychiatric Social Worker
12. Health Education
    a. School Health Education
    b. Community Health Education
13. Medical Records
    a. Medical Record Administrator
    b. Medical Record Technician
14. Speech & Hearing
    a. Audiologist
    b. Speech Pathologist

IV. Medical Ethics and Law

A. Law

1. Definition - a law is a rule of conduct established and enforced by the governing body of a society.

2. Classification/Sources of Laws

a. Constitutions - some laws are derived from the constitution of the governing body within the social structure. The constitution serves as a guideline for establishing and maintain order and protecting the general welfare of a group of individuals - constitutional law.

b. Legislatures - legislative bodies created by the government under the constitution are responsible for enacting laws. A law enacted by a legislative body is referred to a statutory law.

c. Judiciary System - common law is the body of law which has grown out of the judiciary system. The judiciary system is responsible for reconciling controversies and conflicts. It interprets legislation as it has been applied in specific instances and makes decisions in relation to law enforcement. Once a decision has been made in a court of law the principle referred to as stare desisis or "let the decision stand" becomes effective. From that point on that decision becomes the rule and is to be followed in similar situations.

d. Administrative Regulations - Administrative laws refer to the rules and regulations established by administrative agencies which govern and control vital segments/activities of our community. The Food & Drug Administration, the Federal Communications Commission, The State & Local Boards of Health are examples of administrative agencies charged with the responsibility for establishing, implementing and enforcing the rules and regulations regarding specific activities.

B. Legal Rights/Responsibilities

1. The Patient's Rights

a. Right of Privacy - any information about the patient whether recorded in the patient's medical records or taped during interview is by law considered confidential. The patient must give permission in writing for the release of information related to her case and/or the taking and release of photographs taken for the purpose of medical education.

b. Freedom from injury - the patient has the right of safe care. The health professional assumes the responsibility for assuring that the patient's environment is safe at all times. In many instances because of the patient's physical and/or mental condition, the administration of certain drugs, or the patient's age he cannot be held responsible for maintaining his own safe environment. In this regards he is dependent upon the health team members to protect his safety. The health team must

should be noted that the laws may vary from state to state.

C. Ethics

1. Definition - the term "ethics" is derived from the greek word ethos, meaning customs or habitual modes of conduct. "Ethics" today refers to human behaviour in respect to being right or wrong, good or bad.

2. Ethical Codes - each professional group has established an ethical code which specifically identifies standards of practice for its members. The purpose of the code is to promote high standards of performance among its members. Ethical codes are not legally binding. Each individual is expected on the basis of his/her own integrity to support and adhere to the professional code. Every responsible health professional should be familiar with the ethical code of his profession. Generally a copy of the code is available from the accrediting professional organization.

BASIC PRINCIPLES of MEDICAL ETHICS

Those working in the health care services are under obligation to:

1. Consistently maintain full professional knowledge of skills.
2. Safeguard the patient against danger to life and health, and avoid unnecessary and unreasonable expense.
3. Observe professional secrecy and honor confidences disclosed in the process of treating the patient.

4. Refrain from engaging in illegal or immoral practices.
5. Safeguard the public and the professions from those who are deficient in moral character and competence - (French, Ruth M., The Dynamics of Health Care)

D. Terminology -

1. Tort - is a wrong (intentional or unintentional) committed by a person against another person or his property.

2. Crime - is a wrong (intentional) against a person or his property but the act is considered to be also against the public.

3. Negligence - carelessness, failing to perform an act that a reasonably responsible person under similar circumstances would do or performing an act that a reasonably responsible person under similar circumstances would not do.

4. Malpractice - refers to negligence on the part of professional personnel.

5. Invasion of Privacy - patient records are considered private and confidential. Undue exposure of a patient constitutes grounds for invasion of privacy.

6. Assault - is a threat, or an attempt to make bodily contact with another individual without that individual's permission.

7. Battery - is an assault carried out.

9. Litigation - is the process of a lawsuit.

10. False imprisonment - the unlawful detention of a person against his wishes.

V. Human Relations and the Health Professional

A. Personality

1. Definition - the term "personality" refers to the sum total of your individual characteristics. The term is derived from the Latin "persona" which refers to the masks worn by actors to indicate whether they were playing the role of a tragic or a comic figure. An individual is born with certain genetic characteristics and the personality he eventually develops will depend on a number factors.

2. Factors Influencing Personality Development

a. hereditary factors - i.e. genetic make-up- intellectual capacity, physical characteristics.

b. environmental factors and how the individual interprets the environment.

c. coping devices - the learned ways an individual deals with the environment.

3. Development

a. Infancy

b. Adolescence

c. Early adulthood

During each stage of development from infancy to adulthood the individual's personality is being formed and influenced by daily like experiences. During the early stages of life the infant is totally helpless and entirely self-centered. He is only interested in having his basic needs met i.e. hunger, love, sleep, etc. How these needs are met will have a marked effect on his personality development. For example, although satisfying his need for food is paramount to an infant, how he is fed is just as critical as the nourishment he is receiving. The infant finds satisfaction in the nestling and loving attention that go along with the feeding. This infant experience (positive or negative) will carry-over into adult life and have a significant bearing on his personality. How we respond as adults and some of our behaviour patterns are the result of attitudes formed in early childhood situations. One's place in the family (eldest, middle, youngest), relationships with parents, siblings, other relatives, teachers, friends and neighbors have all played

a part in the development of personality. It is important for the health professional to remember in working with health team members and with patients that how they behave and react is influenced by a set of experiences which occurred during infancy, adolescence and early adulthood. These experiences play a vital role in the development of all individuals. (See article - Children Learn What They Live)

B. The Patient

1. Behaviour - when a person is ill he generally assumes a role that is different from the one he played before he became ill. This new rile or change in the patient's behaviour is an attempt to adjust to the new environment which his illness has created. Illness is a personal experience. How an individual will react when he becomes ill is essentially unpredictable. However, in general, how the patient behaves during illness depends on how he behaves in other crisis situations in his life. Not all persons react to illness in the same way. Some of the factors that influence the reactions of the individual are -

    1. the personality of the patient before he became ill and his life situation
    2. the degree or extent of his physical incapacity
    3. the abruptness of the onset
    4. the degree of severity
    5. the duration of the illness
    6. the relationship of the patient to his family and to his physician

Hospitalized patients are under both physical and emotional stress.

1. Every illness involves a change in the person's life situation. The bed patient cannot work, play or be a family member. He is placed in a position where he is dependent upon people he does not know or trust.
2. Illness tends to place a person in a position which is more like the role of a child than an adult. The person's rights (decision making) are taken over by hospital.
3. The patient is uneasy or even frightened by the realization that he is ill, and he is worried about the outcome.
4. The patient is often frightened about the treatments he receives for an illness.
5. The patient is leaving behind many aspects of his personal life. He must do without many sources of comforts he is used to. He loses control of his various responsibilities and obligations.
6. He may be angry, depressed, rejecting, hostile, etc.

2. Stress - is any stimulus that interferes with the physiological or psychological balance of the individual. Stress is created by the environment 1) by

society's interference with the individual's opportunity to satisfy what he considers to be his needs or by family members, friends, associates whose feelings are in direct conflict with the individual's feelings.

3. Illness - Patterns of Behaviour (Emotional Responses)

a. Denial or disbelief - emotional reactions

1. Fear - is an emotional response caused by an immediate or now experience. It is caused by the prospect of loss - for the ill individual there is the threat of loss of health, loss of privacy, loss of independece, etc. Fear is aroused by danger. Illness can represent a danger to one's health, one's survival. It should be noted that fear is characterized by an impulse to escape or run away. Patients with fears may or may not express them. The sensitive and knowledgable health professional who recognizes and understands the patient's fears can do much to alleviate the fears by appropriate explanations.

2. Anxiety - is referred to as an emotional response characterized by a feeling of foreboding about the future. It is non-specific, vague, and generalized and often, unlike fear the cause if unknown.

3. Anger - is an emotional response associated with the blocking of a need which leads to frustration. Anger is energy and motivate an individual to act agressively toward another individual.

b. Dependence/Overdependency - is an emotional response characterized by feelings of helplessness. Character-

istically during periods of illness feelings of dependence usually increase. From the onset of this illness it is important for the health professional to recognize the overdependent tendencies of the patient and help him move toward independence as he recovers from his illness. Rehabilitation starts with the onset of the illness. The patient must be encouraged to assume as much responsibility for his own well being and progress as his condition will allow.

C. Defense/Mental Mechanisms (see Mechanisms of Adjustment from Mental Health & Human Behaviour by Meezer).

D. Communication

1. Definition - refers to the process of channeling information or messages from one individual to another It always involves 2 or more individuals and 2 elements - information and understanding. The media for communication varies - it may be audio or visual.

2. Verbal Communication

a. the transmission of information, attitudes, thoughts, feelings to another individual through the spoken and/or written word.

b. the success of verbal communication depends on-

1. presentation - vocabulary used, organization, clarity of voice, tone, volume and pitchs of voice.

2. attitude of the sender (speaker)

3. listening skills of the speaker and receiver

3. Non-Verbal Communication

a. the transmission of ideas, attitudes, thoughts and feelings to another individual through gestures, touch, facial expressions, body posture, body movements.

4. Barriers to Communication

a. Language

b. Resistance to Change

c. Poor listening skills

d. Poor environmental conditions - i.e. lack of privacy, noise

e. Emotional set of the receiver - i.e.

f. Different cultural backgrounds, socio-economic levels and/or professional levels.

E. Interpersonal Relationships

1. Health Professional - Patient Relationships - Since communication is essential to all on-going activities in the delivery of health care it is imperative that the health professional establish a positive, working relationship with the patient and his family. The patient must feel that he can communicate freely with the health professional and at no point feel threatened or intimidated by health care personnel. The health professional must seize opportunities as he is delivering health care to be supportive of the patient and

encourage the patient where appropriate to communicate his concerns and feelings regarding his illness and how he feels physically and emotionally.

2. Health Professional - Health Professional Relationships

Communication lines within the hospital and more specifically within the health team must be open and free flowing in order to provide and insure quality comprehensive health care to the individual patient. The effectiveness of the health team concept is dependent upon 1) cooperation and sound understanding among the health service personnel 2) coordination and continuity of patient care.

Effective communication among health team members will enable each members will enable each member to supplement and complement each other's services and thereby avoid duplication, omissions, and errors in the delivery of health care.

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The Hospital (Encyclopedia Britannica Educational Corp.)

The Hospital Story - Film Strip & Cassette (Trainex - MedCom Inc.) Garden Grove, California

Better Odds For A Longer Life (New York Heart Association)

Take Joy (American Cancer Society)

Venereal Disease (John Wiley & Sons)

Human Body & the Various Systems (Encyclopedia Britannica Educational Corp.)

Food for Life (National Dairy Council - RHR Film Media (212) 541-9692)

What's Good to Eat (National Dairy Council - RHR Film Media (212) 541-9692)

Venereal Diseases ½ Million Teenagers (New York City Health Department)

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1740 Broadway (582-6040)

National Dairy Council
60 East 42nd Street
Rm. 1235 (MU 2-7961)
New York, New York

American Heart Association
(New York Heart Association)
2 East 64th Street (838-6300)
New York, New York 10021

National Tuberculosis & Respiratory Disease Association
Schermerhorn Street
Brooklyn, New York

PROFESSIONAL ORGANIZATIONS

(see National Health Council Publication)

American Association for Respiratory Therapy
7411 Hines Place
Dallas, Texas 75235

American Dental Association
Chicago, Illinois

American Nurses Association
2240 Pershing Rd.
Kansas City, Missouri

American Society of Radiologic Technologists
500 North Michigan Avenue
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Chicago, Illinois 60611

APPENDIX C

Subjects Common to Allied Health Careers

The attached lists indicate the allied health careers which are likely to include the given subject in their training programs. The career is listed if any of the schools providing training includes the subject in the course of study, or if the subject is recommended in the AMA guidelines.

Anatomy

respiratory therapist
medical record administrator
medical record technician
radiologic technologist
radiation therapy technician
nuclear medicine technician
physical therapist
occupational therapist
medical technologist
medical laboratory technician

Bacteriology

dietitian
medical technologist
medical laboratory technician

Biology

dietitian
physical therapist
medical technologist
medical laboratory technician

Chemistry

respiratory therapist
radiologic technologist
dietitian
dental hygienist
physical therapist
physical therapy assistant
medical technologist
medical laboratory technician

Ethics - Law

respiratory therapist
medical record administrator
medical record technician
radiologic technologist
radiation therapy technologist
medical laboratory technician

Medical Terminology

medical record administrator
respiratory therapist
medical record technician
radiologic technologist

Microbiology

respiratory therapist
dental hygienist
medical technologist
medical laboratory technician

Pathology

radiologic technologist
radiation therapy technologist
nuclear medicine technician
dental hygienist
physical therapist
occupational therapist
medical technologist

Physics

respiratory therapist
radiologic technologist
radiation therapy technologist
physical therapist
physical therapy assistant

Physiology

respiratory therapist
medical record administrator
medical record technician
nuclear medicine technician
dietitian
physical therapist
occupational therapist
medical technologist
medical laboratory technician

Psychology

respiratory therapist
medical record administrator
dietitian
dental hygienist
physical therapist
physical therapy assistant
occupational therapist
speech pathologist and audiologist

Statistics

medical record administrator
medical record technician
dietitian
medical technologist
medical laboratory technician

APPENDIX D

Cost Factors in Lutheran Medical Center Training Programs

The LMC medical laboratories have been involved in the training of students on two levels as follows:

- two associate degree students of medical laboratory technology per semester from New York City Community College who are completing a requirement of 1,000 hours of unspecified content in an approved clinical laboratory setting.
- two to four trainees per year who are completing a six-month apprenticeship on a permit from the Board of Health. This enables them to take an examination at the end of this period qualifying them to be medical laboratory technicians.

Areas in which a cost factor are involved are personnel times, supplies, some miscellaneous costs, and services received.

The students rotate among the chemistry, histology, cytology, microbiology, blood bank and hematology laboratories spending the bulk of their time in chemistry and hematology. They are under the supervision of either a technologist, a technician or the laboratory supervisor.

The results of the tests which the students do are not given to a patient's doctor. This can only be done by licensed personnel. Therefore the tests they do are duplication of work ordered by a physician, and a cost is incurred by the hospital through the use of extra chemicals and expendables (e.g. tubes, slides) and depreciation of capital equipment. The hospital rents uniforms for the students and provides laundry services. The students also receive free lunch and emergency medical care.

The students provide the hospital with a small amount of laboratory clerical assistance and the continual teaching which must be done by hospital staff should help to keep the quality of its own work at a high level.

The physical therapy department takes four to six students per year from Downstate Medical Center and Hunter College. Students come one at a time for clinical training one day a week for ten weeks.

A junior student coming for one semester requires seven and a half hours a day supervision on a one-to-one basis with the department head for the first five or six weeks of his training. During this time the supervisor is giving patient care as well, so the entire seven and

a half hours is not devoted to the student. After approximately six weeks, less supervision and evaluation is needed per day - about two and a half to three hours a day.

Senior students have two semesters of clinical training, one day a week for ten weeks. The first semester requires two hours of one-to-one supervision per day. At this stage the students provide a great amount of service to the hospital on their own. In addition to time already indicated, the supervisor must spend about six hours on curriculum planning.

Students get free meals, but no uniforms or laundry service.

The radiology department takes four to five students per semester. The students are required to have approximately 2,400 hours of clinical experience over a two-year period so they spend eight hours a day, two days a week, at the hospital. A cost to the hospital is incurred through the time given by the department manager, the chief technician, other technicians, and a radiologist.

The manager gives two hours per week with students on film critique instruction in technique, positioning, handling patients and two hours per week with an academic instructor on evaluation of student experiences. The chief technician supervises all films done by students throughout the day. Approximately two hours is spent in film critique, positioning and explanations of the purpose of procedures each day. Each student is assigned to a technician on a one-to-one basis and this technician is responsible for work done by the student. Only after approximately 1,000 hours of experience can the student do some work without constant supervision. The radiologist spends one hour a week on film critique with all students.

Approximately ten x-ray films are wasted each day per student. Markers which indicate the left and right side of x-rays are supplied for each student. They cost about $2.00 each. One meal per day is provided for the student.

After 1,000 hours of experience students can work without constant supervision and so give service. They also assist in the transfer of patients from their rooms to the x-ray suite and back and are utilized to give darkroom assistance.

APPENDIX E

Prototype Affiliation Agreement

AGREEMENT BETWEEN LUTHERAN MEDICAL CENTER AND_____
(College)

A. Introduction

1. This agreement is made this_____day of_____,
(date) (month & year)
between the_____and the Lutheran Medical
(college)
Center hereinafter referred to as the "Hospital", located in Brooklyn, New York. It is agreed by the aforesaid parties to be of mutual interest and advantage for students enrolled in_____to be provided with the
(college)
opportunity of receiving clinical experience in clinical areas in the Hospital.

2. It is further agreed by the aforesaid parties that the Hospital shall make available to the College the facilities of the_____in order to assist it
(department)
to carry out its_____program to the extent possible giving due consideration to the educational needs of both the students of the College and other activities at the Hospital with priorities given to patient care.

3. The Chairperson of the_____program of the College hereinafter called "Chairperson" shall plan the assignments and schedules in cooperation with the Director of_____of the Hospital or his designee here-
(department)
inafter referred to as "Director".

B. Orientation

Two meetings will be planned to take place preceding the onset of the program:

1. orientation between Hospital and College staff involved in the teaching program to delineate the responsibilities of each and the educational objectives of the program's curriculum.

2. orientation to the clinical facility by hospital staff for both students and college faculty.

C. Number of Students and Hours

1. The College will advise the Hospital at least six weeks prior to the beginning of the program of the number of students to be assigned to the clinical field for each semester. The maximum number of students to be assigned at any given time will be_____.

2. The College will assign the students in its_____ program to the Hospital for clinical instruction and experience, with the number of hours no less than_____ and no more than_____.

D. Program and Curriculum

1. The College will control program and faculty administration, and the requirements for matriculation, promotion and graduation.

2. Student evaluation will be the responsibility of the supervising instructor at the hospital. Program evaluation will be the joint responsibility of the College and Hospital at least twice during each semester.

3. Although the College will have final responsibility for curriculum content, provision will be made for hospital staff participation during the planning phase, particularly with reference to the design and objectives of the hospital-based portion of the program.

4. The clinical curriculum will be defined in terms of performance objectives.

E. Instructional Staff

1. The Chairperson and Director will make a pre-determination of which members of the clinical department are qualified to teach and/or supervise specific aspects of the

clinical curriculum.

2. Changes in staff affecting preparation of students or clinical teaching of students should be noted to the other party as soon as possible.

F. Role of Student

Students will not be used in lieu of professional or non-professional staff; they shall be supervised at all times.

G. Regulations and Discipline

1. The regulations of the Lutheran Medical Center will be applicable to the students from _____ during
(college)
their clinical training at this Hospital, and also to faculty members who are assigned to the Lutheran Medical Center.

2. Students will be expected to maintain satisfactory professional behavior acceptable to the Lutheran Medical Center. Any disciplinary problems will be worked out cooperatively by the Chairperson and the Director. A student may be removed from the clinical area by the Director should a problem arise which may affect the safety of patients, hospital staff or students and such action should be reported immediately to the Chairperson. The student may return to the clinical area when and if the problem is solved to the mutual satisfaction of the Chairperson and the Director.

3. Students must wear identification badges at all times. These badges, to be provided by the College, shall contain name of student, program and school.

H. Student Health

1. Prior to their assignment to the clinical field, students will have had a complete physical examination which includes

all tests required by the New York City Department of Health. In the event that any ailment or manifestation of disease occurs in the student during the six-month period prior to clinical assignment or during the clinical experience, the Hospital, at its discretion, shall perform necessary examinations before the student may be assigned to clinical practice. Where required by the Department of Health, students shall also have designated examinations at the termination of the experience.

2. Upon request students will be required to grant permission to the Hospital and/or the College to view all records relating to their health.

The Hospital shall report to the medical office of the College any physical condition of a student where such condition warrants a special report.

3. The Hospital will make available emergency medical care to students and instructors who may become ill or who may be injured while they are at the Hospital.

4. The students and instructors will provide their own medical care, except in emergencies.

I. Miscellaneous

1. The Hospital will permit the use of the hospital library by both faculty and students.

2. The Hospital will make available necessary locker room facilities or the equivalent.

3. The Hospital (will provide) (will provide an area for) one meal per day for the student and faculty.

4. The Hospital (will provide) (will not provide) uniforms.

5. The Hospital will not assume responsibility for travel and incidental expenses of students. Students will not receive remuneration from the Hospital during their period of training.

J. Liability

1. The College agrees that the Faculty and the instructors appointed by the College, when instructing or supervising students at the Hospital, are acting as employees of the College and not of the Hospital, and the College indemnifies and agrees to hold harmless the Hospital against and of any and all claims which may be made against the Hospital by any member of the faculty, any instructor or any student as the result of any injury, illness or disability sustained by any of them arising out of or in the course of instruction at the Hospital.

2. The College indemnifies and agrees to hold harmless the Hospital against and of any and all claims which may be made against the Hospital as a result of any act of negligence of any member of the faculty, any instructor appointed by the College or any student.

K. Costs

1. The Hospital incurs costs resulting from its use as a training site for these students to the following degree per student:

Curriculum planning time:
Orientation time:
Supervisor teaching time:
Regular instruction time:
Expendables (chemicals, disposables, etc.):

2. In consideration of the above, the College shall compensate the Hospital in the following manner:

Academic appointments:

Tuition credits:

Cash payments:

(When and as applicable the above items will be specified. When not applicable, this will be noted.)

L. Publication Rights

All medical information, publicity, media releases, written statements, educational brochures, professional papers, research reports, promotional and fund-raising materials and all public communications regarding programs conducted pursuant to this association shall not bear the name of any of the institutions without its written consent.

M. Non-discrimination

Both parties agree not to discriminate on the ground of race, color, national origin or sex.

N. Modification and Termination

The agreement shall become effective immediately and will continue in full force and effect until terminated as hereinafter provided. This agreement may be modified upon request of either party and with the agreement of the other at any time, or it may be modified or terminated by one party upon_____written notice to the other. Such discontinuance shall not take effect with respect to students already enrolled until such students have completed the course.

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APPENDIX G

Sunset Park and Bay Ridge Health Facilities;
New York Metropolitan Area Planning Agencies

Sunset Park and Bay Ridge Health Facilities:

Bay Ridge Hospital
437 Ovington Avenue
Brooklyn, New York (Bay Ridge)
Administrator: Margaret Jones

Victory Memorial Hospital
9036 Seventh Avenue
Brooklyn, New York (Bay Ridge)
Administrator: Mildred Moriarity

Veteran's Administration Hospital
800 Poly Place
Brooklyn, New York (Bay Ridge)
Director of Personnel: B. Fuca
Chief of Staff: Julian David, M.D.

Park Haven Nursing Home
4301 Eighth Avenue
Brooklyn, New York (Sunset Park)
Administrator: George Hoffman

Norwegian Christian Home for the Aged
1250-67th Street
Brooklyn, New York (Bensonhurst)
Administrator: Samuel Brattlie

Bay Ridge Medical Group
6740 Third Avenue
Brooklyn, New York (Bay Ridge)
Administrator: Martin Bass

Park Medical Building
4824 Fifth Avenue
Brooklyn, New York (Sunset Park)
Administrator: Richard Paskowski, M.D.

Seafarers' Union Medical Clinic
685 Third Avenue
Brooklyn, New York (Sunset Park)
Administrator: Joseph Logue, M.D.

Fifth Avenue Medical Building
4711 Fifth Avenue
Brooklyn, New York (Sunset Park)
Administrator: Jacob Hirschfeld, M.D.

Women's Health Center
999 Third Avenue
Brooklyn, New York (Sunset Park)
Medical Director: Michael Levi, M.D.

New York City Comprehensive Health Planning Agency
305 Broadway
New York, New York 10007
Muriel Ratner, Health Manpower Planning Program Committee

Health and Hospital Planning Council of Sourthern New York, Inc.
3 East 54th Street
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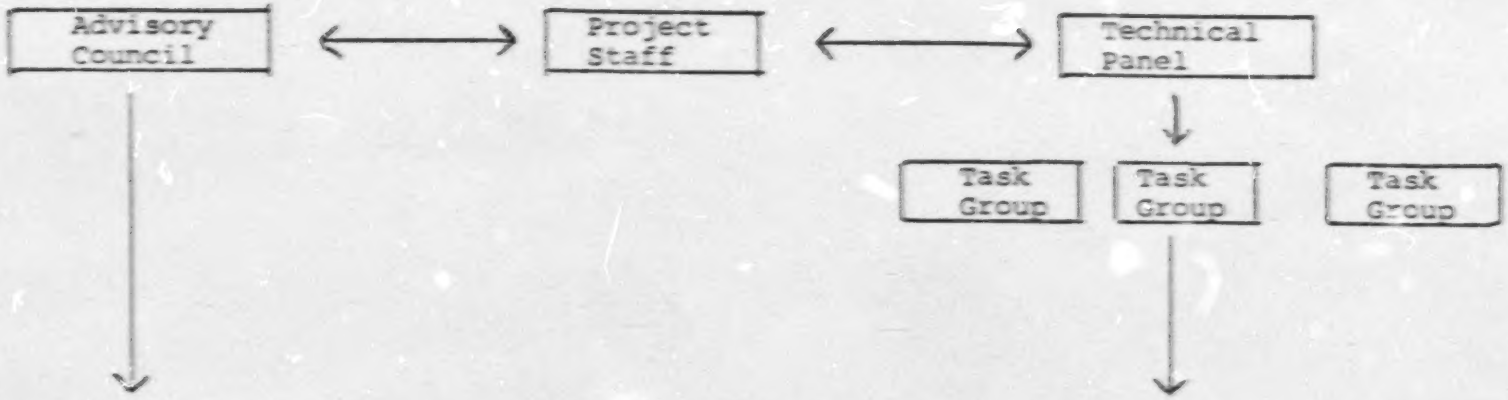
Marvin Roth, Director of Statistical Services Division
Herbert Williams

APPENDIX H

Allied Health Manpower Training Model Project Advisory Committee



Participants:

-Administrators, Hospitals
-Administrators, Schools for allied health manpower
-Officers, Community organizations

-Administrators, Schools for allied health manpower
-Administrators, Personnel
-Representatives, Clinical disciplines
-Representatives, In-service education

Functions:

-Counsel
-Evaluate
-Commit institutions to course of action

Deal with specific issues, such as:
-Appropriate training for each occupation
-Appropriate training site
-Cost of students to clinical facilities
-Core curricula
-Model affiliation agreement

Lutheran Medical Center
January 1974 -

ALLIED HEALTH MANPOWER TRAINING MODEL PROJECT
ADVISORY COMMITTEE

Lutheran Medical Center
January 1974

ALLIED HEALTH MANPOWER TRAINING MODEL PROJECT
ADVISORY COMMITTEE

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Staff Assistant

Miss Magda Marfisi
Secretary

633-3831, 3832

APPENDIX I

Condensed Sample of Occupation Table

RADIOLOGY

		Prerequisites				Program of Study	Length of Course	On-the-job-training	Eligibility			
		H.S.	Exam	Specified H.S. Courses	Lower Level Undergraduate Education	E.G. anatomy, physiology, laboratory sciences, pathology, social sciences			Cert.	Reg.	Lic.	Degree
Radiologic Technologist	A.M.A. Essentials American Registry of Rad. Tech. N.Y. State											
	Downstate Medical Center C.W. Post Center N.Y.C. Community College Methodist Hospital Long Island College Hospital											
Radiation Therapy Technologist	A.M.A.											
	Memorial Hosp. for Can.& Allied Disease Mount Sinai Hospital											
Nuclear Medicine Technologist	A.M.A.											
	Memorial Hosp. for Can.& Allied Disease											
Nuclear Medicine Technician	A.M.A.											
	No area schools											

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APPENDIX J

Employee Interview Data

		Entry level Personnel		Trained Personnel	
		#	%	#	%
Interested in Upward Mobility	yes	20	59	40	80
	no	14		10	
Information about Job Possibilities	yes	9	45	29	73
	no	17		9	
Information about Training Requirement	yes	5	25	34	85
	no	23		5	
Information about LMC Tuition Reimbursement Plan	yes	5	25	31	78
	no	13		7	
Information about 1199 Union Training Fund	yes	10	50	6	15
	no	10		5	

Of those interested in upward mobility:

63% knew about job possibilities
65% " " training requirements
60% " " tuition reimbursements
27% " " union training fund

Number of Interviews: 84, approximately 7% of LMC work force

Employee Interview Data

June, 1974

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